



BARTLETT

ENGINEERING CALCULATION

Calculation Number: ENG-004

Revision Number: 000

Calculation Title: Calculation of Enrico Fermi 1 Derived Concentration Guideline Levels for Soil

| | | | |
|-----------|---|-------|----------------|
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1. PURPOSE

The purpose of this calculation is to develop derived concentration guideline levels (DCGLs) for Detroit Edison's (DTE) Enrico Fermi 1 (EF-1) Fast Breeder Reactor located in Newport, Michigan. This calculation is part of the scope of work defined in the DTE Contract No. 4400001090 associated with DTE Fermi 1 DCGL Development.

2. APPLICABILITY

This calculation addresses only the development of DCGLs for soils at the DTE EF 1 site using the resident farmer scenario and the RESRAD Version 6.4 software.

3. REFERENCES

- 3.1. ANL/EAIS-8, Data Collection Handbook to Support Modeling the Impacts of Radioactive Material in Soil; U.S. Department of Energy – Argonne National Laboratory, April 1993.
- 3.2. NUREG/CR-5512, Volume 3, Residual Radioactive Contamination from Decommissioning: Parameter Analysis, Draft Report for Comment, U.S. Nuclear Regulatory Commission, October 1999.
- 3.3. ANL/EAD-4, User's Manual for RESRAD Version 6, U.S. Department of Energy – Argonne National Laboratory, July, 2001.
- 3.4. NUREG/CR-6697, Development of Probabilistic RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes, U.S. Nuclear Regulatory Commission, December 2000.
- 3.5. Detroit Edison Co., Enrico Fermi 2 Final Safety Analysis Report, Hydrology, section 2.4.1.2 Rev 9, April 1999.
- 3.6. Golder Associates, Report on Groundwater Characterization: Enrico Fermi 1 License Termination, October 2007.
- 3.7. Health Physics, Regional and Site-specific Absolute Humidity Data for Use in Tritium Dose Calculations, Vol 39, August 1980, p. 319.
- 3.8. Conestoga Rover & Associates E-mail date July 1, 2008 Subject: Soil Results-CRA BNI 08-C-006 Rev 000.
- 3.9. M. Erickson – DTE LTP Manager, E-mail June 18, 2008, 11:08 Subject: Protected Area Area.
- 3.10. DTE site meteorological data (10 m) X/Q and D/Q Joint Frequency Distribution Tables 2003 – 2007.
- 3.11. [www.rssWeather. Com/climate/Michigan/Detroit](http://www.rssWeather.Com/climate/Michigan/Detroit) from 1971 -2000.

- 3.12. NUREG-1727, NMSS Decommissioning Standard Review Plan, U.S. Nuclear Regulatory Commission September 2000.
- 3.13. Bartlett Engineering Procedure ENG-AP-02, Verification of Software Operability, June 2008.
- 3.14. NUREG/CR-6692, Probabilistic Modules for the RESRAD 6.0 and RESRAD-BUILD 3.0 Computer Codes, LePaire, D., et al., U.S. Department of Energy-Argonne National Laboratory, November 2000.
- 3.15. NUREG/CR-6676, Probabilistic Dose Analysis Using Parameter Distributions Developed for RESRAD and RESRAD-Build Codes, U.S. Nuclear Regulatory Commission, May 2000.
- 3.16. U. S. Environmental Protection Agency, Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion and Ingestion, EPA/520/1-88-020, September 1968.
- 3.17. Bartlett Engineering Calculation ENG-002, Sensitivity Analysis to Support Enrico Fermi 1 Derived Concentration Guidelines Levels for Soil, Revision 1, September 5, 2008.
- 3.18. U.S. Environmental Protection Agency, Exposure Factors Handbook, Update to Exposure Factors Handbook, EPA/600/8-89/043 — May 1989, EPA/600/P-95/002F August 1997.

4. METHOD OF CALCULATION

The operability of the RESRAD Version 6.4 code was verified on each computer used for code executions in accordance with Bartlett Engineering procedure ENG-AP-02, Verification of Software Operability (ref. 3.13). The RESRAD User's manual (ref. 3.3) provided guidance for code operation and execution. The RESRAD code has undergone extensive review, benchmarking, verification, and validation. Details on reviews, benchmarking, verification, and validation for the RESRAD code are summarized in Sections 5.1–5.4 of RESRAD User's Manual (ref. 3.3).

The RESidual RADioactivity (RESRAD) model and computer code was developed by Scientists and Engineers at Argonne National Laboratory (ANL) as a multifunctional tool to assist in developing radiological criteria for unrestricted release and assessing the dose or risk associated with residual radioactive material. The RESRAD computer code is a pathway analysis model designed to evaluate the potential radiological dose associated with residual radioactive material for a defined receptor scenario: in this case resident farmer. Eight environmental pathway models are considered in this software application: 1) direct radiation exposure, 2) inhalation of airborne dust, 3) ingestion of plants, 4) ingestion of meat, 5) ingestion of milk, 6) ingestion of groundwater, and 7) ingestion of aquatic foods, and 8) inadvertant ingestion of soil contaminants. All these pathways were applied for the DTE EF-1 DCGL computer runs.

In the previous Bartlett Engineering Calculation ENG-002 (ref. 3.17), the probabilistic modules in RESRAD Ver. 6.4 (ref. 3.14 and 3.15) were used to perform a sensitivity analysis to identify

parameters that have the greatest impact on dose. The results from these RESRAD Ver. 6.4 Uncertainty Analysis output reports were used to determine which stochastic parameters were sensitive based on an absolute value of the PRCC exceeding the sensitivity threshold (± 0.25). The RESRAD Ver. 6.4 Interactive Report was then used to identify the 25th or 75th percentile values for the sensitive parameters shown in Table 1 and Attachment 1 (ref. 3.17).

In this calculation ENG-004, the applicable parameters, including the values for the sensitive parameters, for each of the 25 nuclides of concern at DTE EF-1 were input into the RESRAD software. The probabilistic module of RESRAD software was used to compute the single nuclide DCGLs. The Peak of the Mean Doses, PMD_i , were calculated by RESRAD ver. 6.4. The Peak of the Mean Dose result from each of the Uncertainty Reports was extracted. To calculate the DCGLs, it was assumed that the DTE EF-1 decommissioning dose limit, DL_{TEDE} , will be set at 25 mrem/yr which is the NRC's dose criteria established in 10CFR20.1403 (see 5.1.5 below). The single nuclide $DCGL_i$ for the nuclides of concern at DTE EF-1 were calculated using the equation below:

$$DCGL_i = DL_{TEDE} / PMD_i$$

5. ASSUMPTIONS AND INPUT

5.1. Assumptions

5.1.1. Soil: Soil is defined as unconsolidated earth material including rubble and debris that may be present. Sandy loam was assumed to be the types of soil in the vadose and saturated zone (ref. 3.6 & 3.8).

5.1.2. Radionuclides of Concern. Twenty-five radionuclides were assumed for the Fermi 1 site: Ag-108m, Am-241, C-14, Co-60, Cm-242, Cm-243, Cs-134, Cs-137, Eu-152, Eu-154, Eu-155, Fe-55, H-3, Mn-54, Na-22, Nb-94, Ni-59, Ni-63, Pu-238, Pu-239, Pu-240, Pu-241, Sb-125, Sr-90, and Tc-99. This list of nuclides of concern was provided by the client for this contract i.e., DTE.

5.1.3. Resident Farmer Scenario: The dose model used to perform the sensitivity analyses is based upon the Resident Farmer Scenario defined in NUREG/CR-5512 Volume 3 (Ref. 3.2). The average member of the critical group is the resident farmer that lives on the plant site, grows all or a portion of his / her diet onsite, and drinks water from a groundwater source onsite. The potential pathways used to estimate human radiation exposure resulting from residual radioactivity in the soil for this scenario includes the following:

- Direct exposure to external radiation from soil containing residual radioactivity;
- Internal dose from inhalation of airborne radionuclides;

- Internal dose from ingestion of:
 - Plant foods grown in the soil material containing residual radioactivity;
 - Meat and milk from livestock fed with fodder grown in soil containing residual radioactivity and watercontaining residual radioactivity;
 - Drinking water containing residual radioactivity from a well;
 - Aquatic food from a pond containing residual radioactivity; and
 - Soil containing residual radioactivity.

5.1.4. Conceptual Model: EF-1 Protected Area GeoHydrology: The conceptual hydrological model for this resident farmer scenario has three geological stratas: 1) a contaminated zone, 2) an uncontaminated unsaturated zone, and 3) a saturated zone (ref. 3.6). The residual radioactive material was assumed to be contained in the contaminated zone assumed equivalent in size to the EF-1 Protected Area (see Figure 1). The contaminated zone was assumed to include only top soil (0 to 15 cm deep): It was assumed that no cover material exists over the contaminated zone.

The soil between the topsoil and the groundwater table, namely the unsaturated zone, is initially uncontaminated. On July 1, 2007, grain size distributions were determined for seven soil samples obtained near the Protected Area fence at the EF-1 site. The results indicated that the soil collected from the unsaturated zone is classified using the USDA method as sandy loam (ref. 3.8).

The third zone is the saturated zone. It is assumed that the ground water is initially uncontaminated. The depth of the groundwater table is variable at EF-1, but the average depth to groundwater as measured in 2005 and 2006 was 6.5 feet or 1.8 meters (see section 6.1.20). The soil in the saturated zone is sandy loam (see section 5.1.1).

5.1.5. DTE EF-1 Decommissioning Dose Limit: The DTE Dose Limit for decommissioning can be set at the NRC's 10CFR20.1402 (ref 3.12) dose criteria which states that a site is considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a dose to an average member of the critical group that does not exceed 25 mrem/yr and.... Therefore, it is assumed that the DTE EF-1 dose limit will be set at 25 mrem/yr or below.

5.2. Inputs

Attachment 1 summarizes the parameter name, type, priority, treatment, values/distribution and the reference source that provides the bases for each input parameter used for the DTE EF-1 soil DCGL development. Table 1 lists the sensitive parameters that were identified in the sensitivity analysis and the associated sensitive parameter values (ref. 3.17). These sensitive parameters, as well as, the the site specific and other selected values will be used for the soil DCGL input parameters.

| Table 1 | | | |
|--|---------------------------------------|----------------------------|--------------|
| Sensitive Parameters: DTE EF-1 Soil DCGLs | | | |
| Radionuclide | Sensitive Parameter | Units | Value |
| H-3 | Depth of roots | m | 1.225 |
| | Saturated Zone Hydraulic Conductivity | m/y | 370.578 |
| | Kd of H-3 in unsaturated zone | cm ³ /g | 0.0429964 |
| C-14 | Depth of roots | m | 1.225 |
| | Thickness of evasion layer of C-14 | m | 0.426683 |
| | Kd of C-14 in contaminated zone | cm ³ /g | 95.7876 |
| Na-22 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Na-22 in contaminated zone | cm ³ /g | 1342.29 |
| Mn-54 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Mn-54 in contaminated zone | cm ³ /g | 733.382 |
| Fe-55 | Meat transfer factor for Fe | pCi/kg per pCi/d | 0.0391293 |
| | Kd of Fe-55 in contaminated zone | cm ³ /g | 1252.41 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| Ni-59 | Milk transfer factor for Ni | pCi/l per pCi/d | 0.0320793 |
| | Plant transfer factor for Ni | pCi/g plant per pCi/g soil | 0.091145 |
| | Depth of roots | m | 1.225 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| Ni-63 | Milk transfer factor for Ni | pCi/l per pCi/d | 0.0320793 |
| | Plant transfer factor for Ni | pCi/g plant per pCi/g soil | 0.091145 |
| | Depth of roots | m | 1.225 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| Co-60 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Co-60 in contaminated zone | cm ³ /g | 1289.53 |

| Table 1 | | | |
|--|------------------------------------|---------------------------------|--------------|
| Sensitive Parameters: DTE EF-1 Soil DCGLs | | | |
| Radionuclide | Sensitive Parameter | Units | Value |
| Sr-90 | Plant transfer factor for Sr | pCi/g plant per pCi/g soil | 0.589716 |
| | Depth of roots | m | 1.225 |
| | Kd of Sr-90 in contaminated zone | cm ³ /g | 130.78 |
| | Milk Transfer Factor for Sr | pCi/l per pCi/d | 0.00281171 |
| Nb-94 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Nb-94 in contaminated zone | cm ³ /g | 3301.51 |
| Tc-99 | Kd of Tc-99 in contaminated zone | cm ³ /g | 4.27099 |
| | Plant transfer factor for Tc | pCi/g plant per pCi/g soil | 9.15863 |
| | Depth of roots | m | 1.225 |
| Ag-108m | Evapotranspiration Coefficient | Unit-less | 0.687414 |
| | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Ag-108m in contaminated zone | cm ³ /g | 888.945 |
| | Sb-125 | External gamma shielding factor | Unit-less |
| Kd of Sb-125 in contaminated zone | | cm ³ /g | 3322.31 |
| Cs-134 | External gamma shielding factor | Unit-less | 0.3982 |
| | Plant transfer factor for Cs | pCi/g plant per pCi/g soil | 0.078229 |
| | Depth of roots | m | 1.225 |
| Cs-137 | Kd of Cs-134 in contaminated zone | cm ³ /g | 2131.38 |
| | External gamma shielding factor | Unit-less | 0.3982 |
| | Plant transfer factor for Cs | pCi/g plant per pCi/g soil | 0.078229 |
| | Depth of roots | m | 1.225 |
| | Milk transfer factor for Cs | pCi/l per pCi/d | 0.0139265 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| | Meat transfer factor for Cs | pCi/kg per pCi/d | 0.0651616 |

| Table 1 | | | |
|--|-----------------------------------|----------------------------|--------------|
| Sensitive Parameters: DTE EF-1 Soil DCGLs | | | |
| Radionuclide | Sensitive Parameter | Units | Value |
| Eu-152 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Eu-152 in contaminated zone | cm ³ /g | 7211 |
| Eu-154 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Eu-154 in contaminated zone | cm ³ /g | 7202.14 |
| Eu-155 | External gamma shielding factor | Unit-less | 0.3982 |
| | Kd of Eu-155 in contaminated zone | cm ³ /g | 7202.14 |
| Pu-238 | Plant transfer factor for Pu | pCi/g plant per pCi/g soil | 0.00182691 |
| | Depth of roots | m | 1.225 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| Pu-239 | Plant transfer factor for Pu | pCi/g plant per pCi/g soil | 0.00182691 |
| | Depth of roots | m | 1.225 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| Pu-240 | Plant transfer factor for Pu | pCi/g plant per pCi/g soil | 0.00182691 |
| | Depth of roots | m | 1.225 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| Pu-241 | Plant transfer factor for Am | pCi/g plant per pCi/g soil | 0.00182691 |
| | Depth of roots | m | 1.225 |
| | Depth of Soil Mixing Layer | m | 0.149928 |
| | Kd of Am-241 in contaminated zone | cm ³ /g | 1281.1 |
| | Plant transfer factor for Pu | pCi/g plant per pCi/g soil | 0.00182691 |
| Am-241 | External Gamma Shielding Factor | Unit-less | 0.3982 |
| | Depth of roots | m | 1.225 |
| Am-241 | Depth of Soil Mixing Layer | m | 0.149928 |
| | Plant transfer factor for Am | pCi/g plant per pCi/g soil | 0.00182659 |

| Table 1 | | | |
|--|---------------------------------|----------------------------|--------------|
| Sensitive Parameters: DTE EF-1 Soil DCGLs | | | |
| Radionuclide | Sensitive Parameter | Units | Value |
| Cm-242 | Plant transfer factor for Cm | pCi/g plant per pCi/g soil | 0.00182659 |
| | Depth of roots | m | 1.225 |
| | Depth of soil in mixing layer | m | 0.149928 |
| | Plant transfer factor for Pu | pCi/g plant per pCi/g soil | 0.00182691 |
| Cm-243 | External gamma shielding factor | Unit-less | 0.3982 |
| | Plant transfer factor for Cm | pCi/g plant per pCi/g soil | 0.00182659 |
| | Depth of roots | m | 1.225 |
| | Depth of soil in mixing layer | m | 0.149928 |

6. CALCULATIONS AND RESULTS

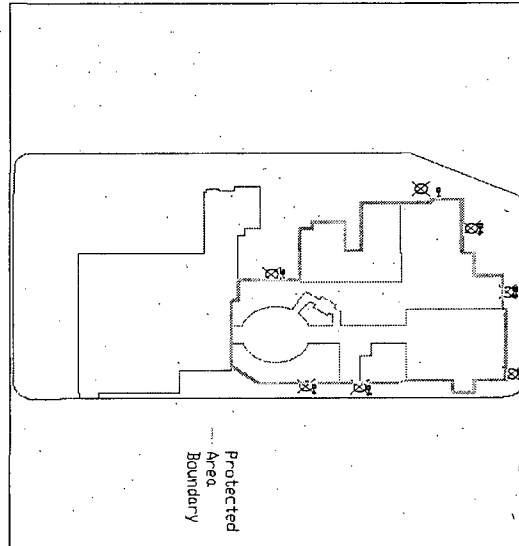
6.1. Calculations

Some parameter values listed in Attachment 1 required calculations. These calculations are documented below.

6.1.1. Area of the Contaminated Zone

Figure 1, Area of the Contaminated Zone (DTE Drawing) was generated with AutoCAD. The area of the contaminated zone was calculated by the AutoCAD software. The value for the area was documented in an e-mail from Martin C. Erickson, DTE EF-1 Licensee Termination Manager (ref. 3.9), RE: NOL divided.dwg dated June 18, 2008, as 7,855.06 square meters. The area of the contaminated zone is assumed equivalent to the area of the ERI Protected Area (outlined with a bold line in Figure 1).

Figure 1- EF-1 Area of Contaminated Zone



6.1.2. Length of Parallel

The Length of Parallel is defined (Ref 3.1) as the maximum horizontal distance measured in the contaminated zone, from its up gradient edge to the down gradient edge, along the direction of the groundwater flow in the underlying aquifer. It was assumed that the area of the contaminated zone could be approximated by a circle with an area of 7,855 m². The diameter of the circle is equivalent to the length of parallel and is calculated as follows:

Area of a Circle

$$A = \pi r^2$$

Where A is the Area in m² and r is the radius in meters.

$$r = \sqrt{\frac{7855}{\pi}}$$

$$r = 50 \text{ m}$$

$$D = 2 \times r = 2 \times 50$$

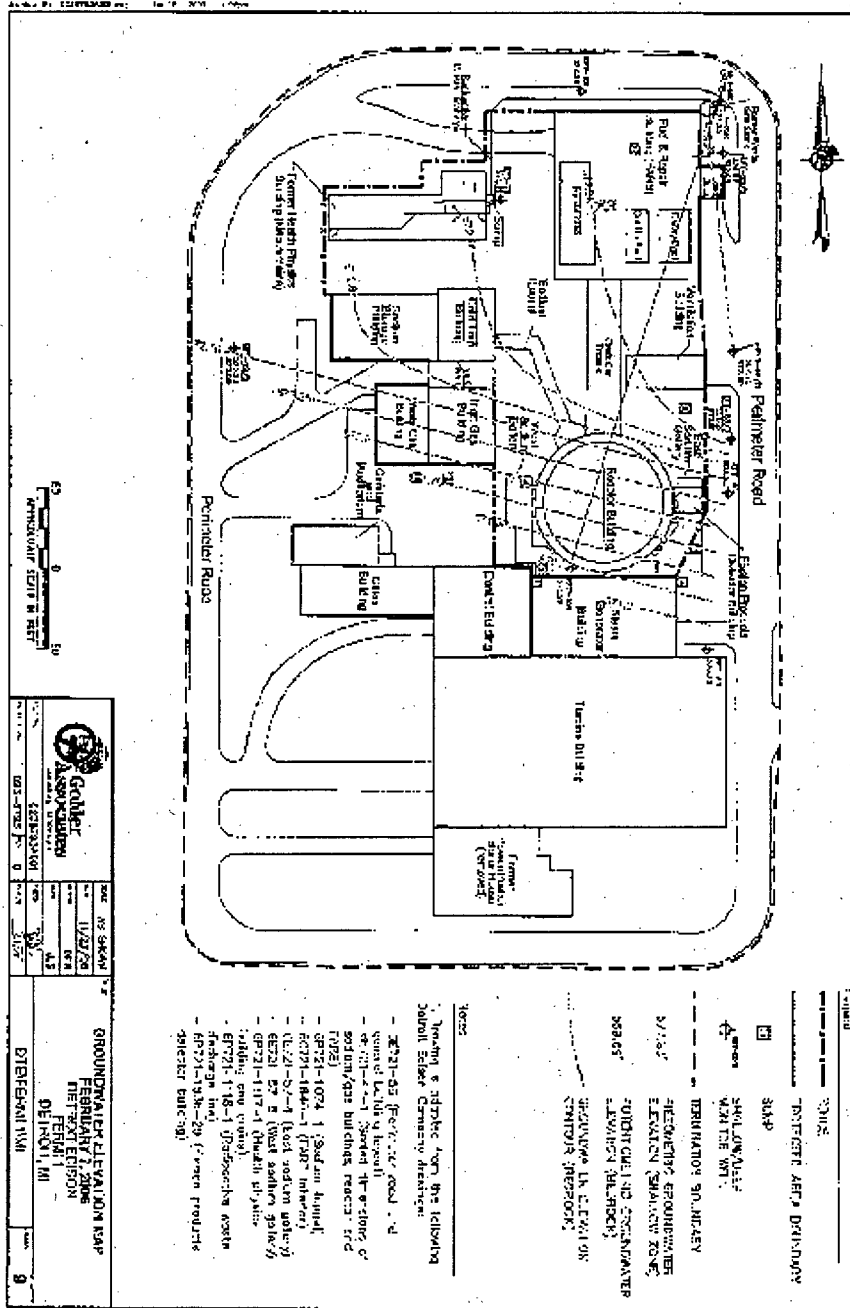
$$D = 100 \text{ m}$$

Therefore, the length of parallel is 100 m.

6.1.3. Contaminated Zone Erosion Rate

The slope of the contaminated zone was determined from Figure 9 in Ref 3.6 entitled Groundwater Elevation Map February 7, 2006 Detroit Edison Fermi 1 (reproduced here as Figure 2). The line extending perpendicular from the contour line between MW- EFT-10S and MW-EF-8S is a run of 313 feet with a decreasing change in elevation from 588.5 feet to 582.5 feet. The slope at the DTE Contaminated Area is 6ft per 313ft, which corresponds to a 1.9% slope. Figure 2 shows the monitoring wells, MW- EFT-10S and MW-EF-8S, that were used for their ground elevation data.

Figure 2- Groundwater Elevation Map February 7, 2006 Detroit Edison Fermi 1



Data from NUREG/CR-6697, Attachment C, Section 3.8, 2nd paragraph of the Discussion Section on pages 3-25 & 3-26, was used to select the appropriate Erosion Rate that corresponds to the DTE EF-1 Site slope of 1.9%.

The data in Table 2 below was generated using NUREG/CR-6697's row-crop Erosion Rate of 6.0×10^{-4} for a 2 % slope. As recommended in this section of NUREG/CR-6697, the remaining Erosion Rates were calculated for 5, 10 and 15 percent slopes using the rate increase factors on p. 3-25. Table 2 displays the results of the erosion rate calculations.

Table 2 - Erosion Rate

| Percent Slope | Erosion Rate (m/y) |
|----------------------|---------------------------|
| 2 | 6.0E-4 |
| 5 | 1.8E-3 |
| 10 | 4.2E-3 |
| 15 | 9.0E-3 |

Using the above Erosion Rate/Slope data the DTE EF-1 site slope of ~ 1.9 % corresponds to an Erosion Rate of approximately 6×10^{-4} m/y.

6.1.4 Field Capacity: Contaminated Zone, Unsaturated zone and Saturated zone

ANL/EAIS-8, Data Collection Handbook to Support Modeling the Impacts of Radioactive Material in Soil, (ref. 3.1) defines the relationship of field capacity (residual water content) to effective porosity. The field capacity is the ratio of the volume of water retained in the soil sample, after all drainage has ceased, to the total volume of the soil sample. Equation 4.4 of ref. 3.1 relates Total and Effective Porosities to Field Capacity as follows:

$$\text{Effective Porosity} = \text{Total Porosity} - \text{Field Capacity}$$

Rearranging this equation:

$$\text{Field Capacity} = \text{Total Porosity} - \text{Effective Porosity}$$

The total porosity of 0.410 and the effective porosity value of 0.346 were used for each of the three zones. These values are the mean values of the NUREG/CR-6697 distributions for sandy loam. Therefore the field capacity is approximately:

$$\text{Field Capacity} = 0.410 - 0.346 = 0.064$$

6.1.5 Runoff Coefficients

Table 10.1 of ref. 3.1 provides the equation below to calculate the Runoff Coefficient, C_r , for an agricultural environment. Table 10.1, Runoff Coefficient Values, also lists values for c_1 , c_2 and c_3 for various environments: The conservative value of 0.1 was selected for C_1 since the DTE EF-1 site has relatively flat terrain.

$$C_r = 1 - c_1 - c_2 - c_3$$

$c_1 = 0.3$ for Flat land with an average slope between 0.3 and 0.9 m/mi.

$c_2 = 0.4$ for open sandy loam as identified at the EF-1 Protected Area (Ref. 3.8).

$c_3 = 0.1$ for cultivated lands which also fits the scenario for the EF-1 site.

Therefore the runoff coefficient is approximately:

$$C_r = 1 - 0.3 - 0.4 - 0.1 = 0.2$$

6.1.6. Watershed Area for Nearby Streams and Ponds

The Detroit Edison EF 2 Final Safety Analysis Report (ref. 3.5) states in section 2.4.1.2.2 that "The Fermi site is in the Swan Creek drainage basin. The watershed is an area of 109 square miles, elongated in shape from northwest to southeast. The basin is about 25 miles long with a maximum topographic relief of about 130 ft". Converting the watershed area of 109 square miles to square meters.

$$\text{Area} = 109 \text{ mi}^2 \times 2.59 \text{ km}^2 / \text{mi}^2 \times 10^6 \text{ m}^2 / \text{km}^2 = 2.82 \times 10^8 \text{ m}^2$$

6.1.7. Fraction of Time Spent Indoors

NUREG/CR-5512 (ref. 3.2) Table 6.87 provides default values for the residential parameters the exposure period indoors is given as 240 days. Dividing by 365.25 days/year gives a fraction of time spent indoors of 0.6571.

6.1.8. Fraction of Time Spent Outdoor

NUREG/CR-5512 (Ref. 3.2) Table 6.87 provides default values for the residential parameters for the exposure period outdoors of 40.2 days and the exposure period gardening of 2.92 which yields a sum of 42.92 days outdoor. Dividing by 365.25 days/year gives a fraction of time spent outdoors of 0.1175.

6.1.9. Inhalation Rate:

NUREG/CR-6697 (ref 3.4) in Attachment C section 5.1 states "the ICRP's best estimate, which is based on 16 hours of light activity and 8 hours of rest as 23 m³/d for adult males." This results an annual inhalation rate of approximately 8400 m³/y.

6.1.10 Soil Ingestion Rate

NUREG/CR-5512 (Ref. 3.2) Table 6.87 provides default values for the residential parameters the soil ingestion rate is given as 0.05 g/d. Dividing by 365.25 days/year gives a soil ingestion rate of 18.26 g/yr.

6.1.11 Drinking Water Intake

NUREG/CR-5512 (ref. 3.2) Table 6.87 provides default values for the residential parameters the drinking water ingestion rate is given as 1.31 liters/d. Dividing by 365.25 days/year gives a drinking water ingestion rate of 478.5 liters/yr.

6.1.12 Miscellaneous Consumption Rates

NUREG/CR-5512 (ref. 3.2) Table 6.87 provides default values for the residential parameters for other ingestion rates used by this resident farmer scenario. These parameters and the ingestion rates are listed in Table 3.

Table 3 Miscellaneous Consumption Rates

| Parameter (NUREG/CR-5512 Vol. 3, Table 6.87) | Value |
|--|--------------|
| Fruit, veg & grain consumption | 112 kg/yr |
| Leafy vegetable consumption | 21.4 kg/yr |
| Milk consumption | 233 L/yr |
| Meat & poultry consumption | 65.1 kg/d |
| Fish consumption | 20.6 kg/yr |

6.1.13 C-14 Evasion Flux Rate for Soil

The RESRAD Users Manual (ref. 3.3) provides on p L-16 the value for the C-14 evasion loss rate constant of 22 1/yr. RESRAD requires that this parameter be expressed in units of 1/sec. Converting 22 1/yr to inverse seconds by dividing by 31,557,600 sec/y gives approximately, 7×10^{-7} 1/sec.

6.1.14 C-12 Evasion Flux Rate for Soil

The RESRAD Users Manual (ref. 3.3) provides on p L-16 the value for the C-12 evasion rate factor of 0.0032 1/y. RESRAD requires that this parameter be expressed in units of 1/sec. Converting 0.0032 per year to inverse seconds by dividing by 31,557,600 sec/y gives 1.01×10^{-10} 1/sec.

6.1.15 Humidity in Air

The technical article entitled, "Regional and Site-Specific Absolute Humidity Data for Use in Tritium Dose Calculations", which is found in Health Physics, Vol.39, pp. 318-320, 1980 (ref. 3.7) provides a table of absolute humidity for selected locations in the United States. These values were calculated from data from the National Oceanic and Atmospheric Administration, 1977, Climatological Data, Annual Summary, volume 28, U.S. Dept. of Commerce. The value of 4.6 g/m^3 (Detroit, Michigan) was chosen from Table 1 of this technical article for the RESRAD humidity in air parameter.

6.1.16 Average Annual Wind Speed

The joint frequency distributions from 2003 to 2007 for Detroit Edison's Enrico Fermi site contain wind speed and direction data (Ref 3.10). These data were used to calculate the average annual wind speed. The mid-range value and the associated frequency for each of the wind speed ranges over this five year period are shown in Table 4. An average wind speed was calculated by summing the product of the mid-range value for each range and the fraction of time the wind was recorded to be within the range. A value of 2.91 m/s was calculated for the average annual wind speed.

Table 4 - DTE EF-1 Average Wind Speed

| | 0.168 | 0.726 | 1.565 | 2.459 | 3.353 | 4.47 | 5.812 | 7.376 | 9.388 | Avg Annual WS (m/s) | |
|------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------------------|-------------|
| 2003 Wind Measured at 10 m. | | | | | | | | | | | |
| Avg. Wind Speed (m/s) | 0.168 | 0.726 | 1.565 | 2.459 | 3.353 | 4.47 | 5.812 | 7.376 | 9.388 | 2.748 | 2003 Avg WS |
| Frequency | 0.65 | 12.8 | 22.87 | 23.83 | 18.84 | 13.85 | 4.91 | 1.83 | 0.42 | 100 | |
| 2004 Wind Measured at 10 m. | | | | | | | | | | | |
| Avg. Wind Speed (m/s) | 0.168 | 0.726 | 1.565 | 2.459 | 3.353 | 4.47 | 5.812 | 7.376 | 9.388 | 3.038 | 2004 Avg WS |
| Frequency | 1.42 | 8.7 | 18.5 | 22.1 | 20.91 | 19.11 | 6.74 | 2.17 | 0.35 | 100 | |
| 2005 Wind Measured at 10 m. | | | | | | | | | | | |
| Avg. Wind Speed (m/s) | 0.168 | 0.726 | 1.565 | 2.459 | 3.353 | 4.47 | 5.812 | 7.376 | 9.388 | 2.939 | 2005 Avg WS |
| Frequency | 0 | 6.83 | 21.92 | 26.26 | 22.09 | 15.44 | 5.45 | 1.79 | 0.22 | 100 | |
| 2006 Wind Measured at 10 m. | | | | | | | | | | | |
| Avg. Wind Speed (m/s) | 0.168 | 0.726 | 1.565 | 2.459 | 3.353 | 4.47 | 5.812 | 7.376 | 9.388 | 2.928 | 2006 Avg WS |
| Frequency | 0 | 8.07 | 21.54 | 24.68 | 21.68 | 16.7 | 5.77 | 1.46 | 0.09 | 99.99 | |
| 2007 Wind Measured at 10 m. | | | | | | | | | | | |
| Avg. Wind Speed (m/s) | 0.168 | 0.726 | 1.565 | 2.459 | 3.353 | 4.47 | 5.812 | 7.376 | 9.388 | 2.908 | 2007 Avg WS |
| Frequency | 0.39 | 10.28 | 20.49 | 23.9 | 20.67 | 16.56 | 5.44 | 1.94 | 0.34 | 100 | |
| | | | | | | | | | | 2.91 | 5 yr Avg WS |

6.1.17 Precipitation

Table 5 provides monthly mean precipitation totals for Detroit, Michigan. These rain gauge measurements were taken over the period 1971 to 2000 (ref. 3:11). This information was based on precipitation data from the the website called rssWeather.com.

Table 5 - Precipitation Rate

| Detroit, MI Monthly Mean Precipitation Totals (inches of water) | |
|--|-------------------------------|
| Period:1971-2000 | |
| Month | Precipitation (inches) |
| Jan | 1.91 |
| Feb | 1.88 |
| Mar | 2.52 |
| April | 3.05 |
| May | 3.05 |
| Jun | 3.55 |
| Jul | 3.16 |
| Aug | 3.1 |
| Sept | 3.27 |
| Oct | 2.23 |
| Nov | 2.66 |
| Dec | 2.51 |
| Year Total | 32.89 |

Converting to meters/year: 32.89 inches/year divided by 39.37inches/meter = 0.8354 meters/year.
 The precipitation rate was assigned a value of 0.84 meters/year

6.1.18 Irrigation Rate (Evapotranspiration and Runoff Coefficients)

NUREG/CR-6697 Attachment C, Section 4.3 discusses the Irrigation Rate in terms of the Evapotranspiration Coefficient. Equation 4.3-1 expresses the Evapotranspiration Coefficient as:

$$C_e = \frac{E_{Tr}}{(1-C_r)(Pr) + IR_r}$$

- Where: E_{Tr} = the Evapotranspiration Rate (m/y)
 Pr = the Precipitation Rate (m/y)
 IR_r = the Irrigation Rate (m/y) and
 C_r = the Runoff Coefficient.

Rearranging this equation, the Irrigation Rate can be expressed as:

$$IRr = \frac{ETr - (1-Cr)(Pr)}{Ce}$$

The input values for the variables in the equation above follow:

1. The Average Annual Potential Evapotranspiration Rate, ETr, in inches per year is provided in ANL/EIS-8 (Ref 3.1) Figure 12.1. This reference provides a map of the United States showing the regional Evapotranspiration Rates. The midpoint of the average annual evapotranspiration rate for the region around Newport, Michigan is 30 inches/year. Converting to m/yr by multiplying by 2.54 cm/in and dividing by 100 cm/m yields 0.762 m/yr for the ETr, evapotranspiration rate.
2. The Precipitation Rate, Pr, has been assigned a site-specific value of 0.84 m/yr as discussed in item 6.1.17 above.
3. The Runoff Coefficient Values, Cr, has been assigned a site-specific value of 0.2 as discussed in item 6.1.5 above
4. The Evapotranspiration Coefficient, Ce, is defined in NUREG/CR-6697, Attachment C, Section 4.3 as the ratio of the total volume of water (a combination of evaporation from soil surfaces and transpiration from vegetation) transferred to the atmosphere to the total volume of water available within the root zone of the soil. This NUREG/CR recommends the use of a uniform distribution with a minimum and maximum values of 0.5 and 0.75, respectively.

Making the appropriate substitution of minimum and maximum values of Ce into the rearranged equation above results in the following range for the Irrigation Rate, IRr, shown in Table 6 below.

Table 6 - Irrigation Rate

| Variable | min value | max value |
|-----------------------------------|--------------|--------------|
| Evapotranspiration Rate (m/y) ETr | 0.762 | 0.762 |
| Precipitation Rate (m/y) Pr | 0.84 | 0.84 |
| Runoff Coefficient Cr | 0.2 | 0.2 |
| Evapotranspiration Coefficient Ce | 0.75 | 0.5 |
| Irrigation Rate (m/y) IRr | 0.344 | 0.852 |

The calculated minimum and maximum IRr values are 0.344 and 0.852 m/y, respectively. A uniform distribution was assigned for this parameter and as previously mentioned a positive input correlation to the Well Pumping Rate was assigned based on the guidance in NUREG/CR-6697 (ref. 3.4) and NUREG/CR-6676 (ref. 3.15).

6.1.19 Well Pumping Rate

NUREG/CR-6697 (ref. 3.4), Attachment C, Section 3.10 states that "A site-specific input distribution for well pumping rate can be determined as the sum of individual water needs." A uniform distribution was assigned for this parameter with a positive correlation to the Irrigation Rate. The household use component is calculated from the domestic use in Table 7:

Table 7 - Resident Farmer Water Use

| Water Use Component (Family of four) | Median | Minimum | Maximum |
|---|--------------|--------------|--------------|
| Household* (m ³ /y) | 374 | 374 | 374 |
| Livestock (m ³ /y) | 76.7 | 76.7 | 76.7 |
| <i>Contaminated fraction for Irrigation</i> <i>f_p = 1 (assumes irrigation of the entire area)</i> | <i>1</i> | <i>1</i> | <i>1</i> |
| <i>Irrigation rate I_r (m/y)</i> | <i>0.598</i> | <i>0.344</i> | <i>0.852</i> |
| Irrigation water (m ³ /y) f _p x I _r x 2000 | 1196 | 688 | 1704 |
| Drinking Water (m ³ /y)** | 1.91 | 1.91 | 1.91 |
| Total for Family of Four (m ³ /y) | 1649 | 1141 | 2157 |

*EPA recommends (ref 3.18) a Household Water Use for a family of four persons of 272 gallons per day (272 gal/day x 3.79E-3 gal/m³ x 365.25day/y = 376 m³/y). The household use is equivalent to 376 m³/y minus the drinking water component of 1.91 m³/y which equals 374 m³/y.

** EPA also recommends for Drinking Water the use of 478 L/y per individual (478 L/y-Ind x 4 Ind x 1m³/1000L = 1.91 m³/y).

The well pumping intake rates which use a uniform distribution will be assigned the following values for the statistical parameters: median = 1649 m³/y, minimum = 1141 m³/y and maximum = 2157 m³/y.

6.1.20. Unsaturated Zone 1, Thickness

The Golder Associates Report on Groundwater Characterization for Enrico Fermi 1 License Termination (ref. 3.6) provided data from Groundwater Elevation measurements performed on 11/17/03 through 12/11/06. The groundwater elevation data from 9/22/05 to 12/11/06 were used to establish average depth to groundwater since this period had full data sets for the shallow monitoring wells. The groundwater elevations and the associated average elevation are listed in Table 8.

Table 8 - Groundwater Elevations in Shallow Monitoring Wells at EF-1

| EF Shallow MW | 9/22/05 | 2/7/06 | 6/6/06 | 12/11/06 | Average |
|-------------------|---------|--------|--------|----------|--------------|
| EFT-1S | 576.93 | 576.73 | 577.64 | 578.5 | 577.45 |
| EFT-2S | 578.46 | 575.57 | 578.34 | 576.75 | 577.28 |
| EFT-4S | 579.31 | 582.76 | 581.07 | 580.6 | 580.94 |
| EFT-5S | 580.19 | 581.69 | 571.44 | 580.79 | 578.53 |
| EFT-6S | 577.85 | 579.23 | 578.88 | 578.16 | 578.53 |
| EFT-7S | 579.4 | 578.11 | 578.02 | 578.74 | 578.57 |
| EFT-8S | | 575.12 | 575.96 | 575.36 | 575.48 |
| EFT-8S/D | 575.83 | 574.25 | 573.92 | 573.25 | 574.31 |
| EFT-9S | 579.07 | 578.26 | 578.82 | 578.02 | 578.54 |
| EFT-10S | 570.49 | 575.29 | 574.78 | 574.06 | 573.66 |
| Avg GW El. | | | | | 577.3 |

The Golder Associates Report also had in Appendix B Borehole and Monitoring Well Construction Logs for the shallow monitoring wells above. Table 9 lists the ground elevations that were measured when these wells were constructed.

Table 9 - Ground Elevation for Shallow Monitoring Wells at EF-1

| EF Shallow MW | Ground Elev (feet) |
|------------------------------|--------------------|
| EFT-1S | 582.20 |
| EFT-2S | 583.40 |
| EFT-4S | 584.60 |
| EFT-5S | 584.20 |
| EFT-6S/D | 583.00 |
| EFT-7S | 582.30 |
| EFT-8S | 583.00 |
| EFT-9S | 583.10 |
| EFT-10S | 588.50 |
| Avg. Ground Elevation | 583.8 |

Average ground surface elevation = **583.8** feet
 Average groundwater elevation = - **577.3** feet
 Average Depth to groundwater = **6.5** feet
 Thickness of contaminated zone = - **0.5** feet
Unsat. Zone 1 Thickness **6.0** feet

Converting 6.0 feet to meters by multiplying by 0.3048 equal 1.8 m for the Unsat. Zone Thickness.

6.2 Results

The results of the RESRAD runs (selected pages) for each of the 25 nuclides are provided in Attachment 2. As mentioned in section 4, one of the results from the RESRAD software is the Peak of the Mean Dose, PMD_i . The Peak of the Mean Dose for the average member of the critical group for the 25 nuclides are listed in the second column of Table 10.

The DCGLs are the concentrations of residual radioactive material that are derived using the RESRAD pathway analysis to correspond to the dose limit established by DTE for Fermi 1 decommissioning (Section 5.1.5). The single nuclide DCGL_i for the nuclides of concern at DTE EF-1 can be calculated using the equation below, the 25 mrem/yr Dose Limit, DL_{TEDE} , and the Peak of the Mean Dose, PMD_i , in mrem/yr per pCi/g:

$$DCGL_i = DL_{TEDE} / PMD_i$$

The single nuclide DCGLs are listed in the third column of Table 10.

Table 10: Soil Peak of the Mean Dose and Single Nuclide DCGLs

| Radionuclide (file name) | Peak of the Mean Dose (mrem/yr per pCi/g) | DCGL_i (pCi/g) |
|---|---|------------------------------------|
| H-3 (MCSUMMARH3 DCGL.REP) | 7.951E-04 | 3.144E+04 |
| C-14 (MCSUMMAR_Soil_DCGL_C14_jwb.REP) | 5.527E-02 | 4.523E+02 |
| Na-22 (MCSUMMARN22 DCGL.REP) | 4.030E+00 | 6.203E+00 |
| Mn-54 (MCSUMMARMN54 DCGL.REP) | 1.164E+00 | 2.148E+01 |
| Fe-55 (MCSUMMARFE55 DCGL.REP) | 7.311E-04 | 3.420E+04 |
| Ni-59 (MCSUMMARNI59 DCGL.REP) | 2.298E-03 | 1.088E+04 |
| Ni-63 (MCSUMMARNI63 DCGL.REP) | 6.291E-03 | 3.974E+03 |
| Co-60 (MCSUMMAR_Soil_DCGL_Co60_jwb.REP) | 4.892E+00 | 5.110E+00 |
| Sr-90 (MCSUMMARSR90 DCGL.REP) | 2.144E+00 | 1.166E+01 |

| Radionuclide (file name) | Peak of the Mean Dose (mrem/yr per pCi/g) | DCGL_i (pCi/g) |
|---|--|-------------------------------------|
| Nb-94 (MCSUMMARNB94 DCGL.REP) | 2.138E-01 | 1.169E+02 |
| Tc-99 (MCSUMMARTC99 DCGL.REP) | 2.132E-01 | 1.173E+02 |
| Ag-108m (MCSUMMAR_Soil_DCGL_Ag108m_jwb.REP) | 3.215E+00 | 7.776E+00 |
| Sb-125 (MCSUMMARSB125 DCGL.REP) | 7.276E-01 | 3.436E+01 |
| Cs-134 (MCSUMMAR_Soil_DCGL_Cs134_jwb.REP) | 3.022E+00 | 8.273E+00 |
| Cs-137 (MCSUMMAR_Soil_DCGL_Cs137_jwb.REP) | 1.493E+00 | 1.674E+01 |
| Eu-152 (MCSUMMAREU152 DCGL.REP) | 2.200E+00 | 1.136E+01 |
| Eu-154 (MCSUMMAREU154 DCGL.REP) | 2.371E+00 | 1.054E+01 |
| Eu-155 (MCSUMMAREU155 DCGL.REP) | 6.203E-02 | 4.030E+02 |
| Pu-238 (MCSUMMARPU238 DCGL.REP) | 1.587E-01 | 1.575E+02 |
| Pu-239 (MCSUMMAR_Soil_DCGL_Pu239_jwb.REP) | 1.762E-01 | 1.419E+02 |
| Pu-240 (MCSUMMARPU240 DCGL.REP) | 1.761E-01 | 1.420E+02 |
| Pu-241 (MCSUMMARPU241 DCGL.REP) | 4.779E-03 | 5.231E+03 |
| Am-241 (MCSUMMAR_Soil_DCGL_Am241_jwb.REP) | 1.882E-01 | 1.328E+02 |
| Cm-242 (MCSUMMAR_Soil_DCGL_Cm242_jwb.REP) | 3.245E-03 | 7.704E+03 |
| Cm-243 (MCSUMMAR_Soil_DCGL_Cm243_jwb.REP) | 3.225E-01 | 7.752E+01 |

7 CONCLUSION

This calculation package documents the calculation of the DCGLs for DTE EF-1 Decommissioning Project in Newport, Michigan. The probabilistic module of RESRAD software was used to derive the single nuclide DCGLs using the parameter values for the resident farmer scenario and site specific values for the DTE Enrico Fermi site. The calculated single nuclide DCGLs for the 25 nuclides rounded to two significant digits are provided in Table 11.

Table 11: Soil DCGL Values by Radionuclide

| Nuclide | Soil DCGL (pCi/g) | Nuclide | Soil DCGL (pCi/g) | Nuclide | Soil DCGL (pCi/g) |
|---------|-------------------|---------|-------------------|---------|-------------------|
| Ag-108m | 7.8 | Eu-154 | 11 | Pu-238 | 160 |
| Am-241 | 130 | Eu-155 | 400 | Pu-239 | 140 |
| C-14 | 450 | Fe-55 | 34,000 | Pu-240 | 140 |
| Cm-242 | 7,700 | H-3 | 31,000 | Pu-241 | 5,200 |
| Cm-243 | 78 | Mn-54 | 21 | Sb-125 | 34 |
| Co-60 | 5.1 | Na-22 | 6.2 | Sr-90 | 12 |
| Cs-134 | 8.3 | Nb-94 | 120 | Tc-99 | 120 |
| Cs-137 | 17 | Ni-59 | 11,000 | | |
| Eu-152 | 11 | Ni-63 | 4,000 | | |

Bartlett Engineering Calculation
Calculation of DTE EF-1 DCGL for Soil

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Attachment 2

**RESRAD Soil Single Nuclide DCGL Printouts
(Selected Pages)**

ENG-004

Rev 0

Ag-108m

Summary : EFl_Ag-108m_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\EFl SOIL DCGL_AG108M.RAD

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| Time = 3.000E+00 | 11 |
| Time = 1.000E+01 | 12 |
| Time = 3.000E+01 | 13 |
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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ag-108 (Source: FGR 12) | 1.143E-01 | 1.143E-01 | DCF1(1) |
| A-1 | Ag-108m (Source: FGR 12) | 9.640E+00 | 9.640E+00 | DCF1(2) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ag-108m+D | 2.830E-04 | 2.830E-04 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ag-108m+D | 7.620E-06 | 7.620E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Ag-108m+D , plant/soil concentration ratio, dimensionless | 4.000E-03 | 1.500E-01 | RTF(1,1) |
| D-34 | Ag-108m+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 3.000E-03 | RTF(1,2) |
| D-34 | Ag-108m+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-03 | 2.500E-02 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ag-108m+D , fish | 5.000E+00 | 5.000E+00 | BIOFAC(1,1) |
| D-5 | Ag-108m+D , crustacea and mollusks | 7.700E+02 | 7.700E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : Efl_Ag-108m_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Ag-108m | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Ag-108m | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary: EFl_Ag-108m_soil DCGL

File: C:\RESRAD_FAMILY\RESRAD\EFl_SOIL DCGL_AG108M.RAD

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Ag-108m | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.889E+02 | 0.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.160E+02 | 0.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 2.160E+02 | 0.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.248E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EF1_Ag-108m_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA (1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA (2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA (3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA (4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA (5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA (6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA (7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA (8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA (9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA (10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA (11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA (12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET (1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET (2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET (3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET (4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET (5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET (6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFIF |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWIF |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGNDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGNHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV (1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV (2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV (3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE (1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE (2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE (3) |

Summary : EF1_Ag-108m_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Summary : EF1_Ag-108m_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Ag-108m_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|--------|
| 1 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.38 | 2.1 | .001 | .999 | | | | |
| 2 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 5.38 | 2.1 | .001 | .999 | | | | |
| 3 | DENSZCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 4 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 5 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 6 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 7 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 8 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 9 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 10 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 11 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 12 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 13 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 14 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 15 | BRTF(47,1) | TRUNCATED LOGNORMAL-N | -5.52 | .9 | .001 | .999 | | | | |
| 16 | BRTF(47,2) | TRUNCATED LOGNORMAL-N | -6.21 | .7 | .001 | .999 | | | | |
| 17 | BRTF(47,3) | TRUNCATED LOGNORMAL-N | -5.12 | .7 | .001 | .999 | | | | |
| 18 | BBIO(47,1) | LOGNORMAL-N | 1.6 | 1.1 | | | | | | |
| 19 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00001 |
| 20 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 21 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 22 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 23 | WLAM | TRIANGULAR | 5.1 | 18 | .84 | | | | | |
| 24 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 25 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 27 | RI | UNIFORM | .344 | .852 | | | | | | |
| 28 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 29 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 30 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 31 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |

Probabilistic results summary : EF1_Ag-108m_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 3.215E+00 |

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Am241

Summary : EF1_Am-241_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Am241 DCGL Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ac-225 (Source: FGR 12) | 6.371E-02 | 6.371E-02 | DCF1(1) |
| A-1 | Am-241 (Source: FGR 12) | 4.372E-02 | 4.372E-02 | DCF1(2) |
| A-1 | At-217 (Source: FGR 12) | 1.773E-03 | 1.773E-03 | DCF1(3) |
| A-1 | Bi-213 (Source: FGR 12) | 7.660E-01 | 7.660E-01 | DCF1(4) |
| A-1 | Fr-221 (Source: FGR 12) | 1.536E-01 | 1.536E-01 | DCF1(5) |
| A-1 | Np-237 (Source: FGR 12) | 7.790E-02 | 7.790E-02 | DCF1(6) |
| A-1 | Pa-233 (Source: FGR 12) | 1.020E+00 | 1.020E+00 | DCF1(7) |
| A-1 | Pb-209 (Source: FGR 12) | 7.734E-04 | 7.734E-04 | DCF1(8) |
| A-1 | Po-213 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(9) |
| A-1 | Ra-225 (Source: FGR 12) | 1.102E-02 | 1.102E-02 | DCF1(10) |
| A-1 | Th-229 (Source: FGR 12) | 3.213E-01 | 3.213E-01 | DCF1(11) |
| A-1 | Tl-209 (Source: FGR 12) | 1.293E+01 | 1.293E+01 | DCF1(12) |
| A-1 | U-233 (Source: FGR 12) | 1.397E-03 | 1.397E-03 | DCF1(13) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Am-241 | 4.440E-01 | 4.440E-01 | DCF2(1) |
| B-1 | Np-237+D | 5.400E-01 | 5.400E-01 | DCF2(2) |
| B-1 | Th-229+D | 2.169E+00 | 2.150E+00 | DCF2(3) |
| B-1 | U-233 | 1.350E-01 | 1.350E-01 | DCF2(4) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Am-241 | 3.640E-03 | 3.640E-03 | DCF3(1) |
| D-1 | Np-237+D | 4.444E-03 | 4.440E-03 | DCF3(2) |
| D-1 | Th-229+D | 4.027E-03 | 3.530E-03 | DCF3(3) |
| D-1 | U-233 | 2.890E-04 | 2.890E-04 | DCF3(4) |
| D-34 | Food transfer factors: | | | |
| D-34 | Am-241 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(1,1) |
| D-34 | Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(1,2) |
| D-34 | Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(1,3) |
| D-34 | Np-237+D , plant/soil concentration ratio, dimensionless | 2.000E-02 | 2.000E-02 | RTF(2,1) |
| D-34 | Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(2,2) |
| D-34 | Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(2,3) |
| D-34 | Th-229+D , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(3,1) |
| D-34 | Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(3,2) |
| D-34 | Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(3,3) |
| D-34 | U-233 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(4,1) |
| D-34 | U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(4,2) |
| D-34 | U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(4,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Am-241 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(1,1) |
| D-5 | Am-241 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |
| D-5 | Np-237+D , fish | 3.000E+01 | 3.000E+01 | BIOFAC(2,1) |
| D-5 | Np-237+D , crustacea and mollusks | 4.000E+02 | 4.000E+02 | BIOFAC(2,2) |

Summary : EF1_Am-241_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Am241 DCGL Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|-----------------------------------|----------------|------------|----------------|
| D-5 | Th-229+D , fish | 1.000E+02 | 1.000E+02 | BIOFAC(3,1) |
| D-5 | Th-229+D , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | U-233 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(4,1) |
| D-5 | U-233 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(4,2) |

#For DCF1(XXX) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Am-241_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\EFl SOIL DCGL_AM241.RAD

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Rev 0

Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Am-241 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Am-241 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Am-241_soil DCGL

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Rev 0

Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|------------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Am-241 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.445E+03 | 2.000E+01 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.445E+03 | 2.000E+01 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 1.445E+03 | 2.000E+01 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.383E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Np-237 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.700E+01 | -1.000E+00 | --- | DCNUCC(2) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.700E+01 | -1.000E+00 | --- | DCNUCU(2,1) |
| R016 | Saturated zone (cm**3/g) | 1.700E+01 | -1.000E+00 | --- | DCNUCS(2) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.165E-01 | ALEACH(2) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(2) |
| R016 | Distribution coefficients for daughter Th-229 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.397E-04 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R016 | Distribution coefficients for daughter U-233 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(4) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(4,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(4) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(4) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(4) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag; external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |

Summary : EF1_Am-241_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMLK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |

Summary : EF1_Am-241_soil DCGL

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Rev0

Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DRCOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.800E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |

Probabilistic results summary : EF1_Am-241_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | |
|--------|------------|-----------------------|------------|-------|-------|------------------------------------|
| 1 | DCACTU1(0) | TRUNCATED LOGNORMAL-N | 5.38 | 2.1 | .001 | .999 |
| 2 | DCACTS(0) | TRUNCATED LOGNORMAL-N | 5.38 | 2.1 | .001 | .999 |
| 3 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 |
| 4 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 |
| 5 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 |
| 6 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 |
| 7 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 |
| 8 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 |
| 9 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 |
| 10 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 |
| 11 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 |
| 12 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 |
| 13 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 |
| 14 | SHF3 | UNIFORM | .15 | .95 | | |
| 15 | BRTF(47,1) | TRUNCATED LOGNORMAL-N | -5.52 | .9 | .001 | .999 |
| 16 | BRTF(47,2) | TRUNCATED LOGNORMAL-N | -6.21 | .7 | .001 | .999 |
| 17 | BRTF(47,3) | TRUNCATED LOGNORMAL-N | -5.12 | .7 | .001 | .999 |
| 18 | BBIO(47,1) | LOGNORMAL-N | 1.6 | 1.1 | | |
| 19 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 .0151 .000016 .1365 .00001 |
| 20 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 |
| 21 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | |
| 22 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | |
| 23 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 |
| 24 | EVAPTR | UNIFORM | .5 | .75 | | |
| 25 | RI | UNIFORM | .344 | .852 | | |
| 26 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 |
| 27 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | |
| 28 | OW | UNIFORM | 1141 | 2157 | | |
| 29 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 |
| 30 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 |
| 31 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 |
| 32 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 |
| 33 | BRTF(95,2) | TRUNCATED LOGNORMAL-N | -9.9 | .2 | .001 | .999 |
| 34 | BRTF(95,3) | TRUNCATED LOGNORMAL-N | -13.12 | .7 | .001 | .999 |
| 35 | BBIO(95,1) | LOGNORMAL-N | 3.4 | 1.1 | | |
| 36 | BRTF(93,1) | TRUNCATED LOGNORMAL-N | -3.91 | .9 | .001 | .999 |
| 37 | BRTF(93,2) | TRUNCATED LOGNORMAL-N | -6.91 | .7 | .001 | .999 |
| 38 | BRTF(93,3) | TRUNCATED LOGNORMAL-N | -11.51 | .7 | .001 | .999 |
| 39 | BBIO(93,1) | LOGNORMAL-N | 3.4 | 1.1 | | |
| 40 | DCACTC(2) | TRUNCATED LOGNORMAL-N | 2.84 | 2.25 | .001 | .999 |
| 41 | DCACTU1(2) | TRUNCATED LOGNORMAL-N | 2.84 | 2.25 | .001 | .999 |
| 42 | DCACTS(2) | TRUNCATED LOGNORMAL-N | 2.84 | 2.25 | .001 | .999 |
| 43 | BRTF(90,1) | TRUNCATED LOGNORMAL-N | -6.91 | .9 | .001 | .999 |
| 44 | BRTF(90,2) | TRUNCATED LOGNORMAL-N | -9.21 | 1 | .001 | .999 |
| 45 | BRTF(90,3) | TRUNCATED LOGNORMAL-N | -12.21 | .9 | .001 | .999 |
| 46 | BBIO(90,1) | LOGNORMAL-N | 4.6 | 1.1 | | |
| 47 | DCACTC(3) | TRUNCATED LOGNORMAL-N | 8.68 | 3.62 | .001 | .999 |
| 48 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 8.68 | 3.62 | .001 | .999 |

Probabilistic results summary : EF1_Am-241_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 1.882E-01 |

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C-14

Summary : EFL DCGL_soil_C-14_jwb

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | C-14 (Source: FGR 12) | 1.345E-05 | 1.345E-05 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | C-14 (Class: ORGANIC) | 2.090E-06 | 2.090E-06 | DCF2(1) |
| B-1 | C-14 (Class: CO2) | 2.350E-08 | 2.350E-08 | C14GInhDCF |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | C-14 | 2.090E-06 | 2.090E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | C-14 , plant/soil concentration ratio, dimensionless | 5.500E+00 | 5.500E+00 | RTF(1,1) |
| D-34 | C-14 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.100E-02 | 3.100E-02 | RTF(1,2) |
| D-34 | C-14 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.200E-02 | 1.200E-02 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | C-14 , fish | 5.000E+04 | 5.000E+04 | BIOFAC(1,1) |
| D-5 | C-14 , crustacea and mollusks | 9.100E+03 | 9.100E+03 | BIOFAC(1,2) |

#For DCF1(XXX) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): C-14 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): C-14 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for C-14 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.579E+01 | 0.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.100E+01 | 0.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 1.100E+01 | 0.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.083E-02 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | 2.000E-05 | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | 3.000E-02 | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | 2.000E-02 | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | 9.800E-01 | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | 4.267E-01 | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | 7.000E-07 | 1.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | 1.000E-10 | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | 8.000E-01 | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | 2.000E-01 | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

*Error not significant
to impact peak of the
mean dose result.*
Beverly D. ...
J. Brown

Summary : EF1 DCGL_soil_C-14_jwb

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\C14_DCGL_JWB\EF1 SOIL DCGL_C-14_JWB.RAD

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Summary : EF1 DCGL_soil_C-14_jwb

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\C14_DCGL_JWB\EF1 SOIL DCGL_C-14_JWB.RAD

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Contaminated Zone Dimensions

Initial Soil Concentrations, pCi/g

| | | | |
|--------------|-----------------------|------|-----------|
| Area: | 7855.06 square meters | C-14 | 1.000E+00 |
| Thickness: | 0.15 meters | | |
| Cover Depth: | 0.00 meters | | |

Total Dose TDOSE(t), mrem/yr

Basic Radiation Dose Limit = 2.500E+01 mrem/yr

Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

| | | | | | | | | |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| t (years): | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| TDOSE(t): | 5.532E-02 | 1.370E-10 | 7.158E-30 | 0.000E+00 | 0.000E+00 | 1.237E-07 | 1.190E-07 | 0.000E+00 |
| M(t): | 2.213E-03 | 5.482E-12 | 2.863E-31 | 0.000E+00 | 0.000E+00 | 4.949E-09 | 4.761E-09 | 0.000E+00 |

Maximum TDOSE(t): 5.532E-02 mrem/yr at t = 0.000E+00 years

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|-------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|--------|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ (1) | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ (1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ (1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ (1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00001 |
| 14 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 17 | RWET (2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 18 | YV (1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 19 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 20 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 21 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 22 | RI | UNIFORM | .344 | .852 | | | | | | |
| 23 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 25 | HCUZ (1) | BOUNDED LOGNORMAL-N | 5.02 | 1.33 | 2.49 | 9250 | | | | |
| 26 | BRTF (6,1) | TRUNCATED LOGNORMAL-N | -.36 | .9 | .001 | .999 | | | | |
| 27 | BRTF (6,2) | TRUNCATED LOGNORMAL-N | -.347 | 1 | .001 | .999 | | | | |
| 28 | BRTF (6,3) | TRUNCATED LOGNORMAL-N | -4.4 | .9 | .001 | .999 | | | | |
| 29 | BBIO (6,1) | LOGNORMAL-N | 10.8 | 1.1 | | | | | | |
| 30 | DCACTU1 (1) | TRUNCATED LOGNORMAL-N | 2.4 | 3.22 | .001 | .999 | | | | |
| 31 | DCACTS (1) | TRUNCATED LOGNORMAL-N | 2.4 | 3.22 | .001 | .999 | | | | |

Probabilistic results summary : EF1 DCGL_soil_C-14_jwb

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\C14_DCGL_JWB\EF1 SOIL DCGL_C-14_JWB.RAD

Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 5.527E-02 |

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Co-60

Summary : EF1_Co60_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\EF1_SOIL_DCGL_CO60.RAD

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Co-60 (Source: FGR 12) | 1.622E+01 | 1.622E+01 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Co-60 | 2.190E-04 | 2.190E-04 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Co-60 | 2.690E-05 | 2.690E-05 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Co-60 , plant/soil concentration ratio, dimensionless | 8.000E-02 | 8.000E-02 | RTF(1,1) |
| D-34 | Co-60 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-02 | 2.000E-02 | RTF(1,2) |
| D-34 | Co-60 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Co-60 , fish | 3.000E+02 | 3.000E+02 | BIOFAC(1,1) |
| D-5 | Co-60 , crustacea and mollusks | 2.000E+02 | 2.000E+02 | BIOFAC(1,2) |

#For DCF1(XXX) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF1_Co60_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Co-60 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Co-60 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | WWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Co60_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Co-60 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.290E+03 | 1.000E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.350E+02 | 1.000E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 2.350E+02 | 1.000E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.550E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLOBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EF1_Co60_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA (1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA (2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA (3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA (4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA (5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA (6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA (7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA (8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA (9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LF15 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LF16 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LW15 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LW16 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EFl_Co60_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRI(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRI(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRI(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSNI |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSNI |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

Summary : EFl_Co60_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|----------|-------|---------|-------|---------|-------|--------|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00001 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.46 | 2.53 | .001 | .999 | | | | |
| 27 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 5.46 | 2.53 | .001 | .999 | | | | |
| 28 | BRTF(27,1) | LOGNORMAL-N | -2.53 | .916291 | | | | | | |
| 29 | BRTF(27,2) | LOGNORMAL-N | -3.51 | 1.029619 | | | | | | |
| 30 | BRTF(27,3) | LOGNORMAL-N | -6.21 | .7 | | | | | | |
| 31 | BBIO(27,1) | LOGNORMAL-N | 5.7 | 1.1 | | | | | | |

Probabilistic results summary : EF1_Co60_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 4.892E+00 |

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Cm-242

Summary : EF1_Cm-242_soil DCGL

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| Time = 3.000E+00 | 12 |
| Time = 1.000E+01 | 13 |
| Time = 3.000E+01 | 14 |
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Summary : EF1_Cm-242_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Cm242-243 PTF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | At-218 (Source: FGR 12) | 5.847E-03 | 5.847E-03 | DCF1(1) |
| A-1 | Bi-210 (Source: FGR 12) | 3.606E-03 | 3.606E-03 | DCF1(2) |
| A-1 | Bi-214 (Source: FGR 12) | 9.808E+00 | 9.808E+00 | DCF1(3) |
| A-1 | Cm-242 (Source: FGR 12) | 1.709E-04 | 1.709E-04 | DCF1(4) |
| A-1 | Pb-210 (Source: FGR 12) | 2.447E-03 | 2.447E-03 | DCF1(5) |
| A-1 | Pb-214 (Source: FGR 12) | 1.341E+00 | 1.341E+00 | DCF1(6) |
| A-1 | Po-210 (Source: FGR 12) | 5.231E-05 | 5.231E-05 | DCF1(7) |
| A-1 | Po-214 (Source: FGR 12) | 5.138E-04 | 5.138E-04 | DCF1(8) |
| A-1 | Po-218 (Source: FGR 12) | 5.642E-05 | 5.642E-05 | DCF1(9) |
| A-1 | Pu-238 (Source: FGR 12) | 1.513E-04 | 1.513E-04 | DCF1(10) |
| A-1 | Ra-226 (Source: FGR 12) | 3.176E-02 | 3.176E-02 | DCF1(11) |
| A-1 | Rn-222 (Source: FGR 12) | 2.354E-03 | 2.354E-03 | DCF1(12) |
| A-1 | Th-230 (Source: FGR 12) | 1.209E-03 | 1.209E-03 | DCF1(13) |
| A-1 | Tl-210 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1(14) |
| A-1 | U-234 (Source: FGR 12) | 4.017E-04 | 4.017E-04 | DCF1(15) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Cm-242 | 1.730E-02 | 1.730E-02 | DCF2(1) |
| B-1 | Pb-210+D | 1.380E-02 | 1.360E-02 | DCF2(4) |
| B-1 | Po-210 | 9.400E-03 | 9.400E-03 | DCF2(5) |
| B-1 | Pu-238 | 3.920E-01 | 3.920E-01 | DCF2(6) |
| B-1 | Ra-226+D | 8.594E-03 | 8.580E-03 | DCF2(8) |
| B-1 | Th-230 | 3.260E-01 | 3.260E-01 | DCF2(9) |
| B-1 | U-234 | 1.320E-01 | 1.320E-01 | DCF2(10) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Cm-242 | 1.150E-04 | 1.150E-04 | DCF3(1) |
| D-1 | Pb-210+D | 5.376E-03 | 5.370E-03 | DCF3(4) |
| D-1 | Po-210 | 1.900E-03 | 1.900E-03 | DCF3(5) |
| D-1 | Pu-238 | 3.200E-03 | 3.200E-03 | DCF3(6) |
| D-1 | Ra-226+D | 1.321E-03 | 1.320E-03 | DCF3(8) |
| D-1 | Th-230 | 5.480E-04 | 5.480E-04 | DCF3(9) |
| D-1 | U-234 | 2.830E-04 | 2.830E-04 | DCF3(10) |
| D-34 | Food transfer factors: | | | |
| D-34 | Cm-242 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(1,1) |
| D-34 | Cm-242 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(1,2) |
| D-34 | Cm-242 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Pb-210+D , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(4,1) |
| D-34 | Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 8.000E-04 | RTF(4,2) |
| D-34 | Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(4,3) |
| D-34 | | | | |
| D-34 | Po-210 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(5,1) |
| D-34 | Po-210 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(5,2) |
| D-34 | Po-210 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(5,3) |
| D-34 | | | | |

Summary : EFl_Cm-242_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Cm242-243 PTF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| D-34 | Pu-238 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(6,1) |
| D-34 | Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(6,2) |
| D-34 | Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(6,3) |
| D-34 | | | | |
| D-34 | Ra-226+D , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(8,1) |
| D-34 | Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(8,2) |
| D-34 | Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(8,3) |
| D-34 | | | | |
| D-34 | Th-230 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(9,1) |
| D-34 | Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(9,2) |
| D-34 | Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(9,3) |
| D-34 | | | | |
| D-34 | U-234 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(10,1) |
| D-34 | U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(10,2) |
| D-34 | U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(10,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Cm-242 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(1,1) |
| D-5 | Cm-242 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Pb-210+D , fish | 3.000E+02 | 3.000E+02 | BIOFAC(4,1) |
| D-5 | Pb-210+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(4,2) |
| D-5 | | | | |
| D-5 | Po-210 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(5,1) |
| D-5 | Po-210 , crustacea and mollusks | 2.000E+04 | 2.000E+04 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | Pu-238 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(6,1) |
| D-5 | Pu-238 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(6,2) |
| D-5 | | | | |
| D-5 | Ra-226+D , fish | 5.000E+01 | 5.000E+01 | BIOFAC(8,1) |
| D-5 | Ra-226+D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(8,2) |
| D-5 | | | | |
| D-5 | Th-230 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(9,1) |
| D-5 | Th-230 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(9,2) |
| D-5 | | | | |
| D-5 | U-234 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(10,1) |
| D-5 | U-234 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(10,2) |

#For DCFl(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl Cm-242 soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T (2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T (3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T (4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T (5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T (6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T (7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T (8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T (9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Cm-242 | 1.000E+00 | 0.000E+00 | --- | S1 (1) |
| R012 | Concentration in groundwater (pCi/L): Cm-242 | not used | 0.000E+00 | --- | W1 (1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : Efl Cm-242 soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|------------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Cm-242 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.761E+03 | -1.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.761E+03 | -1.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 6.761E+03 | -1.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.956E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Pb-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCC(4) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCU(4,1) |
| R016 | Saturated zone (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCS(4) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 8.355E-04 | ALEACH(4) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(4) |
| R016 | Distribution coefficients for daughter Po-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCC(5) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCU(5,1) |
| R016 | Saturated zone (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCS(5) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.103E-02 | ALEACH(5) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(5) |
| R016 | Distribution coefficients for daughter Pu-238 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCC(6) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCU(6,1) |
| R016 | Saturated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCS(6) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.097E-03 | ALEACH(6) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(6) |
| R016 | Distribution coefficients for daughter Ra-226 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCC(8) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCU(8,1) |
| R016 | Saturated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCS(8) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.657E-04 | ALEACH(8) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(8) |
| R016 | Distribution coefficients for daughter Th-230 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(9) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(9,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(9) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.397E-04 | ALEACH(9) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(9) |

Summary : EFl_Cm-242_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R016 | Distribution coefficients for daughter U-234 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(10) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(10,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(10) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(10) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLOBK(10) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |

Summary : EF1_Cm-242_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFIM |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWIM |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |

Probabilistic results summary : EF1 Cm-242 soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|--------|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00001 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | BRTF(90,1) | TRUNCATED LOGNORMAL-N | -6.91 | .9 | .001 | .999 | | | | |
| 25 | BRTF(90,2) | TRUNCATED LOGNORMAL-N | -9.21 | 1 | .001 | .999 | | | | |
| 26 | BRTF(90,3) | TRUNCATED LOGNORMAL-N | -12.21 | .9 | .001 | .999 | | | | |
| 27 | BBIO(90,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | |
| 28 | BRTF(92,1) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 29 | BRTF(92,2) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 30 | BRTF(92,3) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 31 | BBIO(92,1) | LOGNORMAL-N | 2.3 | 1.1 | | | | | | |
| 32 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 8.82 | 1.82 | .001 | .999 | | | | |
| 33 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 8.82 | 1.82 | .001 | .999 | | | | |
| 34 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 8.82 | 1.82 | .001 | .999 | | | | |
| 35 | BRTF(96,2) | TRUNCATED LOGNORMAL-N | -10.82 | 1 | .001 | .999 | | | | |
| 36 | BRTF(96,3) | TRUNCATED LOGNORMAL-N | -13.12 | .9 | .001 | .999 | | | | |
| 37 | BBIO(96,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | |
| 38 | DCACTC(4) | TRUNCATED LOGNORMAL-N | 7.78 | 2.76 | .001 | .999 | | | | |
| 39 | DCACTU1(4) | TRUNCATED LOGNORMAL-N | 7.78 | 2.76 | .001 | .999 | | | | |
| 40 | DCACTS(4) | TRUNCATED LOGNORMAL-N | 7.78 | 2.76 | .001 | .999 | | | | |
| 41 | BRTF(82,1) | TRUNCATED LOGNORMAL-N | -5.52 | .9 | .001 | .999 | | | | |
| 42 | BRTF(82,2) | TRUNCATED LOGNORMAL-N | -7.13 | .7 | .001 | .999 | | | | |
| 43 | BRTF(82,3) | TRUNCATED LOGNORMAL-N | -8.11 | .9 | .001 | .999 | | | | |
| 44 | BBIO(82,1) | LOGNORMAL-N | 5.7 | 1.1 | | | | | | |
| 45 | DCACTC(5) | TRUNCATED LOGNORMAL-N | 5.2 | 1.68 | .001 | .999 | | | | |
| 46 | DCACTU1(5) | TRUNCATED LOGNORMAL-N | 5.2 | 1.68 | .001 | .999 | | | | |
| 47 | DCACTS(5) | TRUNCATED LOGNORMAL-N | 5.2 | 1.68 | .001 | .999 | | | | |
| 48 | BRTF(84,1) | TRUNCATED LOGNORMAL-N | -6.9 | .9 | .001 | .999 | | | | |

Probabilistic results summary : EF1_Cm-242_soil_DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 3.245E-03 |

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Cm-243

Summary : EF1_Cm-243_soil DCGL

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| Time = 1.000E+00 | 11 |
| Time = 3.000E+00 | 12 |
| Time = 1.000E+01 | 13 |
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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Cm243 -TF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ac-227 (Source: FGR 12) | 4.951E-04 | 4.951E-04 | DCF1(1) |
| A-1 | Am-243 (Source: FGR 12) | 1.420E-01 | 1.420E-01 | DCF1(2) |
| A-1 | Bi-211 (Source: FGR 12) | 2.559E-01 | 2.559E-01 | DCF1(3) |
| A-1 | Cm-243 (Source: FGR 12) | 5.829E-01 | 5.829E-01 | DCF1(4) |
| A-1 | Fr-223 (Source: FGR 12) | 1.980E-01 | 1.980E-01 | DCF1(5) |
| A-1 | Np-239 (Source: FGR 12) | 7.529E-01 | 7.529E-01 | DCF1(6) |
| A-1 | Pa-231 (Source: FGR 12) | 1.906E-01 | 1.906E-01 | DCF1(7) |
| A-1 | Pb-211 (Source: FGR 12) | 3.064E-01 | 3.064E-01 | DCF1(8) |
| A-1 | Po-211 (Source: FGR 12) | 4.764E-02 | 4.764E-02 | DCF1(9) |
| A-1 | Po-215 (Source: FGR 12) | 1.016E-03 | 1.016E-03 | DCF1(10) |
| A-1 | Pu-239 (Source: FGR 12) | 2.952E-04 | 2.952E-04 | DCF1(11) |
| A-1 | Ra-223 (Source: FGR 12) | 6.034E-01 | 6.034E-01 | DCF1(12) |
| A-1 | Rn-219 (Source: FGR 12) | 3.083E-01 | 3.083E-01 | DCF1(13) |
| A-1 | Th-227 (Source: FGR 12) | 5.212E-01 | 5.212E-01 | DCF1(14) |
| A-1 | Th-231 (Source: FGR 12) | 3.643E-02 | 3.643E-02 | DCF1(15) |
| A-1 | Tl-207 (Source: FGR 12) | 1.980E-02 | 1.980E-02 | DCF1(16) |
| A-1 | U-235 (Source: FGR 12) | 7.211E-01 | 7.211E-01 | DCF1(17) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ac-227+D | 6.724E+00 | 6.700E+00 | DCF2(1) |
| B-1 | Am-243+D | 4.400E-01 | 4.400E-01 | DCF2(2) |
| B-1 | Cm-243 | 3.070E-01 | 3.070E-01 | DCF2(3) |
| B-1 | Pa-231 | 1.280E+00 | 1.280E+00 | DCF2(5) |
| B-1 | Pu-239 | 4.290E-01 | 4.290E-01 | DCF2(6) |
| B-1 | U-235+D | 1.230E-01 | 1.230E-01 | DCF2(7) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ac-227+D | 1.480E-02 | 1.410E-02 | DCF3(1) |
| D-1 | Am-243+D | 3.623E-03 | 3.620E-03 | DCF3(2) |
| D-1 | Cm-243 | 2.510E-03 | 2.510E-03 | DCF3(3) |
| D-1 | Pa-231 | 1.060E-02 | 1.060E-02 | DCF3(5) |
| D-1 | Pu-239 | 3.540E-03 | 3.540E-03 | DCF3(6) |
| D-1 | U-235+D | 2.673E-04 | 2.660E-04 | DCF3(7) |
| D-34 | Food transfer factors: | | | |
| D-34 | Ac-227+D , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(1,1) |
| D-34 | Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(1,2) |
| D-34 | Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Am-243+D , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(2,1) |
| D-34 | Am-243+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(2,2) |
| D-34 | Am-243+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(2,3) |
| D-34 | | | | |
| D-34 | Cm-243 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(3,1) |
| D-34 | Cm-243 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(3,2) |
| D-34 | Cm-243 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(3,3) |
| D-34 | | | | |

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Cm243 -TF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-34 | Pa-231 , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(5,1) |
| D-34 | Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(5,2) |
| D-34 | Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(5,3) |
| D-34 | | | | |
| D-34 | Pu-239 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(6,1) |
| D-34 | Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(6,2) |
| D-34 | Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(6,3) |
| D-34 | | | | |
| D-34 | U-235+D , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(7,1) |
| D-34 | U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(7,2) |
| D-34 | U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(7,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ac-227+D , fish | 1.500E+01 | 1.500E+01 | BIOFAC(1,1) |
| D-5 | Ac-227+D , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Am-243+D , fish | 3.000E+01 | 3.000E+01 | BIOFAC(2,1) |
| D-5 | Am-243+D , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(2,2) |
| D-5 | | | | |
| D-5 | Cm-243 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(3,1) |
| D-5 | Cm-243 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | Pa-231 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(5,1) |
| D-5 | Pa-231 , crustacea and mollusks | 1.100E+02 | 1.100E+02 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | Pu-239 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(6,1) |
| D-5 | Pu-239 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(6,2) |
| D-5 | | | | |
| D-5 | U-235+D , fish | 1.000E+01 | 1.000E+01 | BIOFAC(7,1) |
| D-5 | U-235+D , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(7,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Cm-243 | 1.000E+00 | 0.000E+00 | --- | S1(3) |
| R012 | Concentration in groundwater (pCi/L): Cm-243 | not used | 0.000E+00 | --- | W1(3) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|------------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Cm-243 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.761E+03 | -1.000E+00 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.761E+03 | -1.000E+00 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 6.761E+03 | -1.000E+00 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.956E-04 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R016 | Distribution coefficients for daughter Ac-227 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.422E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Am-243 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.445E+03 | 2.000E+01 | --- | DCNUCC(2) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.445E+03 | 2.000E+01 | --- | DCNUCU(2,1) |
| R016 | Saturated zone (cm**3/g) | 1.445E+03 | 2.000E+01 | --- | DCNUCS(2) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.383E-03 | ALEACH(2) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(2) |
| R016 | Distribution coefficients for daughter Pa-231 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCC(5) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCU(5,1) |
| R016 | Saturated zone (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCS(5) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.258E-03 | ALEACH(5) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(5) |
| R016 | Distribution coefficients for daughter Pu-239 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCC(6) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCU(6,1) |
| R016 | Saturated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCS(6) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.097E-03 | ALEACH(6) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(6) |
| R016 | Distribution coefficients for daughter U-235 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(7) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(7,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(7) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(7) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(7) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |

Summary : EF1_Cm-243_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |

Probabilistic results summary : EF1_Cm-243_soil DCGL

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Probabilistic results summary : EF1_Cm-243_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|--------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|--------|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ (1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ (1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ (1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ (1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00001 |
| 14 | YV (1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET (2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ (1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | BRTF (92, 1) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 25 | BRTF (92, 2) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 26 | BRTF (92, 3) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 27 | BBIO (92, 1) | LOGNORMAL-N | 2.3 | 1.1 | | | | | | |
| 28 | BRTF (96, 2) | TRUNCATED LOGNORMAL-N | -10.82 | 1 | .001 | .999 | | | | |
| 29 | BRTF (96, 3) | TRUNCATED LOGNORMAL-N | -13.12 | .9 | .001 | .999 | | | | |
| 30 | BBIO (96, 1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | |
| 31 | BRTF (94, 2) | TRUNCATED LOGNORMAL-N | -9.21 | .2 | .001 | .999 | | | | |
| 32 | BRTF (94, 3) | TRUNCATED LOGNORMAL-N | -13.82 | .5 | .001 | .999 | | | | |
| 33 | BBIO (94, 1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | |
| 34 | DCACTC (3) | TRUNCATED LOGNORMAL-N | 8.82 | 1.82 | .001 | .999 | | | | |
| 35 | DCACTU1 (3) | TRUNCATED LOGNORMAL-N | 8.82 | 1.82 | .001 | .999 | | | | |
| 36 | DCACTS (3) | TRUNCATED LOGNORMAL-N | 8.82 | 1.82 | .001 | .999 | | | | |
| 37 | DCACTC (1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 38 | DCACTU1 (1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 39 | DCACTS (1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 40 | BRTF (89, 1) | TRUNCATED LOGNORMAL-N | -6.91 | 1.1 | .001 | .999 | | | | |
| 41 | BRTF (89, 2) | TRUNCATED LOGNORMAL-N | 10.82 | 1 | .001 | .999 | | | | |
| 42 | BRTF (89, 3) | TRUNCATED LOGNORMAL-N | -13.12 | .9 | .001 | .999 | | | | |
| 43 | BBIO (89, 1) | LOGNORMAL-N | 2.7 | 1.1 | | | | | | |
| 44 | DCACTC (2) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 | | | | |
| 45 | DCACTU1 (2) | TRUNCATED LOGNORMAL-N | 7.28 | 3.22 | .001 | .999 | | | | |
| 46 | DCACTS (2) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 | | | | |
| 47 | BRTF (95, 1) | TRUNCATED LOGNORMAL-N | -6.91 | .9 | .001 | .999 | | | | |
| 48 | BRTF (95, 2) | TRUNCATED LOGNORMAL-N | -9.9 | .2 | .001 | .999 | | | | |

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Probabilistic results summary : EF1_Cm-243_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 3.225E-01 |

Cs-134

Summary : EFl_Cs134_soil DCGL

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| Time = 3.000E+00 | 11 |
| Time = 1.000E+01 | 12 |
| Time = 3.000E+01 | 13 |
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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Cs134 PTF_EF1 DCGL Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Cs-134 (Source: FGR 12) | 9.472E+00 | 9.472E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Cs-134 | 4.620E-05 | 4.620E-05 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Cs-134 | 7.330E-05 | 7.330E-05 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Cs-134 , plant/soil concentration ratio, dimensionless | 7.823E-02 | 4.000E-02 | RTF(1,1) |
| D-34 | Cs-134 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.000E-02 | 3.000E-02 | RTF(1,2) |
| D-34 | Cs-134 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 8.000E-03 | 8.000E-03 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Cs-134 , fish | 2.000E+03 | 2.000E+03 | BIOFAC(1,1) |
| D-5 | Cs-134 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Cs-134 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Cs-134 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b'parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Cs134_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (if different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Cs-134 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.131E+03 | 4.600E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 4.460E+02 | 4.600E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 4.460E+02 | 4.600E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.377E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EFl_Ca134_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\EFl SOIL DCGL_CS134.RAD

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFIM |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWIM |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DRCOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF1_Cs134_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12C2 |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIx |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

Summary : EFl_Cs134_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EFl_Cs134_soil DCGL

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| Dose vs Pathway: Meat (Water Ind.) | 9 |
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Probabilistic results summary : EF1_Cs134_soil DCGL
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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|---------|-------|---------|-------|---------|-------|--------|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00003 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | BBIO(55,1) | LOGNORMAL-N | 7.6 | .7 | | | | | | |
| 25 | BRTF(55,2) | LOGNORMAL-N | -3 | .405465 | | | | | | |
| 26 | BRTF(55,3) | LOGNORMAL-N | -4.61 | .47 | | | | | | |
| 27 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.1 | 2.33 | .001 | .999 | | | | |
| 28 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.1 | 2.33 | .001 | .999 | | | | |
| 29 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |

Probabilistic results summary : EF1_Cs134_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 3.022E+00 |

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Cs-137

Summary : EF1_Cs137_soil DCGL
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| Time = 1.000E+01 | 12 |
| Time = 3.000E+01 | 13 |
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ENG-004
Rev 0Dose Conversion Factor (and Related) Parameter Summary
Dose Library: DCF_PTF Cs137 Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ba-137m (Source: FGR 12) | 3.606E+00 | 3.606E+00 | DCF1(1) |
| A-1 | Cs-137 (Source: FGR 12) | 7.510E-04 | 7.510E-04 | DCF1(2) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Cs-137+D | 3.190E-05 | 3.190E-05 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Cs-137+D | 5.000E-05 | 5.000E-05 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Cs-137+D , plant/soil concentration ratio, dimensionless | 7.823E-02 | 4.000E-02 | RTF(1,1) |
| D-34 | Cs-137+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 6.516E-02 | 3.000E-02 | RTF(1,2) |
| D-34 | Cs-137+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.393E-02 | 8.000E-03 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Cs-137+D , fish | 2.000E+03 | 2.000E+03 | BIOFAC(1,1) |
| D-5 | Cs-137+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF1_Cs137_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|---------------|-----------|--|-------------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T (2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T (3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T (4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T (5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T (6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T (7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T (8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T (9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Cs-137 | 1.000E+00 | 0.000E+00 | --- | SI(1) |
| R012 | Concentration in groundwater (pCi/L): Cs-137 | not used | 0.000E+00 | --- | WL(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Summary : EF1_Cs137_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Cs-137 | | | | |
| R016 | Contaminated zone (cm**3/g) | 4.460E+02 | 4.600E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 4.460E+02 | 4.600E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 4.460E+02 | 4.600E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.480E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | ---- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EFl_Cs137_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFIS |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWIS |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF1_Cs137_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

Summary : EF1_Cs137_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EFl_Cs137_soil DCGL
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Probabilistic results summary : EFl_Cs137_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|--------|
| 1 | DENS CZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TFSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00003 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | 1.56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | BBIO(S5,1) | LOGNORMAL-N | 7.6 | .7 | | | | | | |
| 25 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 6.1 | 2.33 | .001 | .999 | | | | |
| 26 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.1 | 2.33 | .001 | .999 | | | | |
| 27 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.1 | 2.33 | .001 | .999 | | | | |

Probabilistic results summary : EFl_Cs137_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | Peak mean dose |
|------------|------------------------|----------------|
| | Years | mrem/yr |
| 1 | 0.000E+00 | 1.493E+00 |

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Eu-152

Summary : EF1_Eu-152_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\EU152\EF1SOIL DCGL_EU152.RAD

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Eu-152 (Source: FGR 12) | 7.006E+00 | 7.006E+00 | DCF1(1) |
| A-1 | Gd-152 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(2) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Eu-152 | 2.210E-04 | 2.210E-04 | DCF2(1) |
| B-1 | Gd-152 | 2.430E-01 | 2.430E-01 | DCF2(3) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Eu-152 | 6.480E-06 | 6.480E-06 | DCF3(1) |
| D-1 | Gd-152 | 1.610E-04 | 1.610E-04 | DCF3(3) |
| D-34 | Food transfer factors: | | | |
| D-34 | Eu-152 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(1,1) |
| D-34 | Eu-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(1,2) |
| D-34 | Eu-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Gd-152 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(3,1) |
| D-34 | Gd-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(3,2) |
| D-34 | Gd-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(3,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Eu-152 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(1,1) |
| D-5 | Eu-152 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Gd-152 , fish | 2.500E+01 | 2.500E+01 | BIOFAC(3,1) |
| D-5 | Gd-152 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(3,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETRG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF1_Eu-152_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Eu-152 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Eu-152 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Eu-152_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Eu-152 | | | | |
| R016 | Contaminated zone (cm**3/g) | 7.211E+03 | -1.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.772E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Gd-152 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.422E-03 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LF15 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LF16 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LW15 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LW16 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLPD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | EGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm ³) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVEG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVEG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm ³) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Eu-152_soil DCGL

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Probabilistic results summary : EF1_Eu-152_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TFSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 27 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 28 | BRTF(63,1) | TRUNCATED LOGNORMAL-N | -6.21 | 1.1 | .001 | .999 | | | | |
| 29 | BRTF(63,2) | TRUNCATED LOGNORMAL-N | -6.21 | 1 | .001 | .999 | | | | |
| 30 | BRTF(63,3) | TRUNCATED LOGNORMAL-N | -9.72 | .9 | .001 | .999 | | | | |
| 31 | BBIO(63,1) | LOGNORMAL-N | 3.9 | 1.1 | | | | | | |
| 32 | DCACTC(3) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 33 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 34 | DCACTS(3) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 35 | BRTF(64,1) | TRUNCATED LOGNORMAL-N | -6.21 | 1.1 | .001 | .999 | | | | |
| 36 | BRTF(64,2) | TRUNCATED LOGNORMAL-N | -6.21 | 1 | .001 | .999 | | | | |
| 37 | BRTF(64,3) | TRUNCATED LOGNORMAL-N | -9.72 | .9 | .001 | .999 | | | | |
| 38 | BBIO(64,1) | LOGNORMAL-N | 3.2 | 1.1 | | | | | | |

Probabilistic results summary : EF1_Eu-152_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | Peak mean dose |
|------------|------------------------|----------------|
| | Years | mrem/yr |
| 1 | 0.000E+00 | 2.200E+00 |

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Summary : EFl_Eu-154_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Eu-154 (Source: FGR 12) | 7.678E+00 | 7.678E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Eu-154 | 2.860E-04 | 2.860E-04 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Eu-154 | 9.550E-06 | 9.550E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Eu-154 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(1,1) |
| D-34 | Eu-154 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(1,2) |
| D-34 | Eu-154 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Eu-154 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(1,1) |
| D-5 | Eu-154 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Eu-154 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Eu-154 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIEWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Eu-154 | | | | |
| R016 | Contaminated zone (cm**3/g) | 7.201E+03 | -1.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.776E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFIS |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWIS |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

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Part VI: Uncertainty Analysis

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | BRTF(63,1) | TRUNCATED LOGNORMAL-N | -6.21 | 1.1 | .001 | .999 | | | | |
| 27 | BRTF(63,2) | TRUNCATED LOGNORMAL-N | -6.21 | 1 | .001 | .999 | | | | |
| 28 | BRTF(63,3) | TRUNCATED LOGNORMAL-N | -9.72 | .9 | .001 | .999 | | | | |
| 29 | BBIO(63,1) | LOGNORMAL-N | 3.9 | 1.1 | | | | | | |
| 30 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 31 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |

Probabilistic results summary : EF1_Eu-154_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 2.371E+00 |

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Eu-155

Summary : EF1_Eu-155_soil DCGL

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Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Eu-155 (Source: FGR 12) | 1.822E-01 | 1.822E-01 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Eu-155 | 4.140E-05 | 4.140E-05 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Eu-155 | 1.530E-06 | 1.530E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Eu-155 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(1,1) |
| D-34 | Eu-155 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(1,2) |
| D-34 | Eu-155 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Eu-155 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(1,1) |
| D-5 | Eu-155 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LC2PAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Eu-155 | 1.000E+00 | 0.000E+00 | --- | SI(1) |
| R012 | Concentration in groundwater (pCi/L): Eu-155 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Eu-155_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Eu-155 | | | | |
| R016 | Contaminated zone (cm**3/g) | 7.201E+03 | -1.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.776E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor, flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFIS |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWIS |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 9.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Summary : EFl_Eu-155_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Eu-155_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | BRTF(63,1) | TRUNCATED LOGNORMAL-N | -6.21 | 1.1 | .001 | .999 | | | | |
| 27 | BRTF(63,2) | TRUNCATED LOGNORMAL-N | -6.21 | 1 | .001 | .999 | | | | |
| 28 | BRTF(63,3) | TRUNCATED LOGNORMAL-N | -9.72 | .9 | .001 | .999 | | | | |
| 29 | BBIO(63,1) | LOGNORMAL-N | 3.9 | 1.1 | | | | | | |
| 30 | DCACTUI(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 31 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |

Probabilistic results summary : EF1_Eu-155_scil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | Peak mean dose |
|------------|------------------------|----------------|
| | Years | mrem/yr |
| 1 | 0.000E+00 | 6.203E-02 |

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Fe-55

Summary : EF1_Fe-55_soil DCGL

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| Time = 3.000E+00 | 11 |
| Time = 1.000E+01 | 12 |
| Time = 3.000E+01 | 13 |
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Dose Library: Fe 55 Meat Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Fe-55 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Fe-55 | 2.690E-06 | 2.690E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Fe-55 | 6.070E-07 | 6.070E-07 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Fe-55 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(1,1) |
| D-34 | Fe-55 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.913E-02 | 2.000E-02 | RTF(1,2) |
| D-34 | Fe-55 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Fe-55 , fish | 2.000E+02 | 2.000E+02 | BIOFAC(1,1) |
| D-5 | Fe-55 , crustacea and mollusks | 3.200E+03 | 3.200E+03 | BIOFAC(1,2) |

#For DCF1(XXX) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Fe-55_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Fe-55 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Fe-55 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EFl_Fe-55_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Fe-55 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.252E+03 | 1.000E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.090E+02 | 1.000E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 2.090E+02 | 1.000E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.596E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA (1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA (2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA (3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA (4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA (5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA (6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA (7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA (8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA (9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA (10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA (11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA (12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET (1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET (2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET (3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET (4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET (5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET (6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMLK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV (1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV (2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV (3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE (1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE (2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE (3) |

Summary : EFl_Fe-55_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Summary : EFl_Fe-55_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EFl_Fe-55_soil DCGL

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Probabilistic results summary : EF1_Fe-55_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TECZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 16 | WLAM | TRIANGULAR | 5.1 | 18 | .84 | | | | | |
| 17 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 18 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 19 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 20 | RI | UNIFORM | .344 | .852 | | | | | | |
| 21 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 22 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 23 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 24 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 25 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.34 | 2.67 | .001 | .999 | | | | |
| 26 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 5.34 | 2.67 | .001 | .999 | | | | |
| 27 | BRTF(26,1) | TRUNCATED LOGNORMAL-N | -6.91 | .9 | .001 | .999 | | | | |
| 28 | BRTF(26,3) | TRUNCATED LOGNORMAL-N | -8.11 | .7 | .001 | .999 | | | | |
| 29 | BBIO(26,1) | LOGNORMAL-N | 5.3 | 1.1 | | | | | | |
| 30 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |

Probabilistic results summary : EFl_Fe-55_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | | Peak mean dose |
|------------|------------------------|--|----------------|
| | Years | | mrem/yr |
| 1 | 0.000E+00 | | 7.311E-04 |

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H-3

Summary : EF-1 H-3_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\H3\EF1SOIL DCGL_H3.RAD

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| Time = 1.000E+01 | 12 |
| Time = 3.000E+01 | 13 |
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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | H-3 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | H-3 | 6.400E-08 | 6.400E-08 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | H-3 | 6.400E-08 | 6.400E-08 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | H-3 , plant/soil concentration ratio, dimensionless | 4.800E+00 | 4.800E+00 | RTF(1,1) |
| D-34 | H-3 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.200E-02 | 1.200E-02 | RTF(1,2) |
| D-34 | H-3 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-02 | 1.000E-02 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | H-3 , fish | 1.000E+00 | 1.000E+00 | BIOFAC(1,1) |
| D-5 | H-3 , crustacea and mollusks | 1.000E+00 | 1.000E+00 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF-1 H-3_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|---|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): H-3 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): H-3 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | 4.600E+00 | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 3.706E+02 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF-1 H-3 soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for H-3 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.000E-02 | 0.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 4.300E-02 | 0.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 6.000E-02 | 0.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.476E+00 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EF-1 H-3_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF-1 H-3_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSCIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSEL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

Summary : EF-1 H-3_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF-1 H-3_soil DCGL

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| Dose vs Pathway: Meat (Water Ind.) | 9 |
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Probabilistic results summary : EF-1 H-3_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|-----------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 15 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 16 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 17 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 18 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 19 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 20 | RI | UNIFORM | .344 | .852 | | | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |
| 25 | DCACTC(1) | TRUNCATED LOGNORMAL-N | -2.81 | .5 | .001 | .999 | | | | |
| 26 | DCACTS(1) | TRUNCATED LOGNORMAL-N | -2.81 | .5 | .001 | .999 | | | | |
| 27 | BRTF(1,1) | TRUNCATED LOGNORMAL-N | 1.57 | 1.1 | .001 | .999 | | | | |
| 28 | BRTF(1,2) | TRUNCATED LOGNORMAL-N | -4.42 | 1 | .001 | .999 | | | | |
| 29 | BRTF(1,3) | TRUNCATED LOGNORMAL-N | -4.6 | .9 | .001 | .999 | | | | |
| 30 | BBIO(1,1) | LOGNORMAL-N | 0 | .1 | | | | | | |

Probabilistic results summary : EF-1 H-3_soil DCGL

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Rev D

Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 7.951E-04 |

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Mn-54

Summary : Efl_Mn-54_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\MN54\EFLSOIL DCGL_MN54.RAD

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| Time = 3.000E+00 | 11 |
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| Time = 3.000E+01 | 13 |
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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Mn-54 (Source: FGR 12) | 5.156E+00 | 5.156E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Mn-54 | 6.700E-06 | 6.700E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Mn-54 | 2.770E-06 | 2.770E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Mn-54 , plant/soil concentration ratio, dimensionless | 3.000E-01 | 3.000E-01 | RTF(1,1) |
| D-34 | Mn-54 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-04 | 5.000E-04 | RTF(1,2) |
| D-34 | Mn-54 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Mn-54 , fish | 4.000E+02 | 4.000E+02 | BIOFAC(1,1) |
| D-5 | Mn-54 , crustacea and mollusks | 9.000E+04 | 9.000E+04 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETPG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Mn-54_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Mn-54 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Mn-54 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EFl_Mn-54_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Mn-54 | | | | |
| R016 | Contaminated zone (cm**3/g) | 7.334E+02 | 2.000E+02 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.580E+02 | 2.000E+02 | --- | DCNUCC(1,1) |
| R016 | Saturated zone (cm**3/g) | 1.580E+02 | 2.000E+02 | --- | DCNUCC(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.725E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EF1_Mn-54_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LF15 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LF16 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LW15 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LW16 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF1_Mn-54_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

Summary : EFl_Mn-54_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Mn-54_soil DCGL

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Probabilistic results summary : EF1_Mn-54_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCC2 | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.06 | 2.29 | .001 | .999 | | | | |
| 26 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 5.06 | 2.29 | .001 | .999 | | | | |
| 27 | BRTF(25,1) | TRUNCATED LOGNORMAL-N | -1.2 | .9 | .001 | .999 | | | | |
| 28 | BRTF(25,2) | TRUNCATED LOGNORMAL-N | -6.91 | .7 | .001 | .999 | | | | |
| 29 | BRTF(25,3) | TRUNCATED LOGNORMAL-N | -8.11 | .7 | .001 | .999 | | | | |
| 30 | BBIO(25,1) | LOGNORMAL-N | 6 | 1.1 | | | | | | |

Probabilistic results summary : EF1_Mn-54_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | Peak mean dose |
|------------|------------------------|----------------|
| | Years | mrem/yr |
| 1 | 0.000E+00 | 1.164E+00 |

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Na-22

Summary : EF1_Na-22_soil DCGL

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Rev 0

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Summary : EFl_Na-22_soil DCGL

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Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Na-22 (Source: FGR 12) | 1.368E+01 | 1.368E+01 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Na-22 | 7.660E-06 | 7.660E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Na-22 | 1.150E-05 | 1.150E-05 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Na-22 , plant/soil concentration ratio, dimensionless | 5.000E-02 | 5.000E-02 | RTF(1,1) |
| D-34 | Na-22 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-02 | 8.000E-02 | RTF(1,2) |
| D-34 | Na-22 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.000E-02 | 4.000E-02 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Na-22 , fish | 2.000E+01 | 2.000E+01 | BIOFAC(1,1) |
| D-5 | Na-22 , crustacea and mollusks | 2.000E+02 | 2.000E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Na-22_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Na-22 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Na-22 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | R(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Na-22 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.343E+03 | 1.000E+01 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.540E+02 | 1.000E+01 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 1.540E+02 | 1.000E+01 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.488E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EFL_Na-22_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | Cl2WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | Cl2CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENBFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TFCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TFFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2CCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Summary : EF1_Na-22_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Na-22_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.04 | 3.22 | .001 | .999 | | | | |
| 27 | DCACT5(1) | TRUNCATED LOGNORMAL-N | 5.04 | 3.22 | .001 | .999 | | | | |
| 28 | BRTF(11,1) | TRUNCATED LOGNORMAL-N | -3 | 1 | .001 | .999 | | | | |
| 29 | BRTF(11,2) | TRUNCATED LOGNORMAL-N | -2.53 | .2 | .001 | .999 | | | | |
| 30 | BRTF(11,3) | TRUNCATED LOGNORMAL-N | -3.22 | .5 | .001 | .999 | | | | |
| 31 | BBIO(11,1) | LOGNORMAL-N | 3 | 1.1 | | | | | | |

Probabilistic results summary : EF1_Na-22_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 4.030E+00 |

Nb-94

Summary : EF1_Nb-94_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Nb-95 (Source: FGR 12) | 4.689E+00 | 4.689E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Nb-95 | 5.810E-06 | 5.810E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Nb-95 | 2.570E-06 | 2.570E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Nb-95 , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(1,1) |
| D-34 | Nb-95 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.000E-07 | 3.000E-07 | RTF(1,2) |
| D-34 | Nb-95 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Nb-95 , fish | 3.000E+02 | 3.000E+02 | BIOFAC(1,1) |
| D-5 | Nb-95 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF1_Nb-94_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Nb-95 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Nb-95 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.450E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Nb-95 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.302E+03 | 0.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.800E+02 | 0.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 3.800E+02 | 0.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.054E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LF15 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Site-Specific Parameter Summary (continued)

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|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Nb-94_soil DCGL

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Probabilistic results summary : EFl_Nb-94_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 15 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 16 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 17 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 18 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 19 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 21 | RI | UNIFORM | .344 | .852 | | | | | | |
| 22 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 24 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 25 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 26 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 27 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 28 | BRTF(41,1) | TRUNCATED LOGNORMAL-N | -4.61 | 1.1 | .001 | .999 | | | | |
| 29 | BRTF(41,2) | TRUNCATED LOGNORMAL-N | -13.82 | .9 | .001 | .999 | | | | |
| 30 | BRTF(41,3) | TRUNCATED LOGNORMAL-N | -13.12 | .7 | .001 | .999 | | | | |
| 31 | BBIO(41,1) | LOGNORMAL-N | 5.7 | 1.1 | | | | | | |

Probabilistic results summary : EF1_Nb-94_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 2.138E-01 |

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Ni-59

Summary : EFl_Ni-59_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Ni59 Plant Milk Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ni-59 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ni-59 | 2.700E-06 | 2.700E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ni-59 | 2.100E-07 | 2.100E-07 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Ni-59 , plant/soil concentration ratio, dimensionless | 9.115E-02 | 5.000E-02 | RTF(1,1) |
| D-34 | Ni-59 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(1,2) |
| D-34 | Ni-59 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.208E-02 | 2.000E-02 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ni-59 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(1,1) |
| D-5 | Ni-59 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |

#For DCF1(XXX) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF1_Ni-59_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Ni-59 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Ni-59 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EFl_Ni-59_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm ³) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Ni-59 | | | | |
| R016 | Contaminated zone (cm ³ /g) | 4.240E+02 | 1.000E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm ³ /g) | 4.240E+02 | 1.000E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm ³ /g) | 4.240E+02 | 1.000E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.712E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SCLUBK(1) |
| R017 | Inhalation rate (m ³ /yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m ³) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EFl_Ni-59_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF1_Ni-59_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSEL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EFl_Ni-59_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\NI59\EFlSOIL DCGL_NI59.RAD

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Probabilistic results summary : EF1_Ni-59_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 6.05 | 1.46 | .001 | .999 | | | | |
| 25 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.05 | 1.46 | .001 | .999 | | | | |
| 26 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.05 | 1.46 | .001 | .999 | | | | |
| 27 | BRTF(28,2) | TRUNCATED LOGNORMAL-N | -5.3 | .9 | .001 | .999 | | | | |
| 28 | BBIO(28,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | |
| 29 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |

Probabilistic results summary : EF1_Ni-59_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 2.298E-03 |

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Ni-63

Summary : EFl_Ni-63_soil DCGL

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| Time = 3.000E+01 | 13 |
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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: Ni63 Plant Milk Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ni-63 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ni-63 | 6.290E-06 | 6.290E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ni-63 | 5.770E-07 | 5.770E-07 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Ni-63 , plant/soil concentration ratio, dimensionless | 9.115E-02 | 5.000E-02 | RTF(1,1) |
| D-34 | Ni-63 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(1,2) |
| D-34 | Ni-63 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.208E-02 | 2.000E-02 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ni-63 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(1,1) |
| D-5 | Ni-63 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Ni-63_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Ni-63 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Ni-63 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAO |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b' parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EFl_Ni-63_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Ni-63 | | | | |
| R016 | Contaminated zone (cm**3/g) | 4.240E+02 | 1.000E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 4.240E+02 | 1.000E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 4.240E+02 | 1.000E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.712E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EFl_Ni-63_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFIS |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LF16 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWIS |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | CI2WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | CI2CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSIN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSIN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Summary : EF1_Ni-63_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Ni-63_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | 5.6 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | BRTF(28,2) | TRUNCATED LOGNORMAL-N | -5.3 | .9 | .001 | .999 | | | | |
| 25 | BBIO(28,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | |
| 26 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |
| 27 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.05 | 1.46 | .001 | .999 | | | | |
| 28 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 6.05 | 1.46 | .001 | .999 | | | | |
| 29 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.05 | 1.46 | .001 | .999 | | | | |

Probabilistic results summary : EF1_Ni-63_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | | Peak mean dose mrem/yr |
|------------|------------------------|--|---------------------------|
| | Years | | |
| 1 | 0.000E+00 | | 6.291E-03 |

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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: Pu238 Plant Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | At-218 (Source: FGR 12) | 5.847E-03 | 5.847E-03 | DCF1(1) |
| A-1 | Bi-210 (Source: FGR 12) | 3.606E-03 | 3.606E-03 | DCF1(2) |
| A-1 | Bi-214 (Source: FGR 12) | 9.808E+00 | 9.808E+00 | DCF1(3) |
| A-1 | Pb-210 (Source: FGR 12) | 2.447E-03 | 2.447E-03 | DCF1(4) |
| A-1 | Pb-214 (Source: FGR 12) | 1.341E+00 | 1.341E+00 | DCF1(5) |
| A-1 | Po-210 (Source: FGR 12) | 5.231E-05 | 5.231E-05 | DCF1(6) |
| A-1 | Po-214 (Source: FGR 12) | 5.138E-04 | 5.138E-04 | DCF1(7) |
| A-1 | Po-218 (Source: FGR 12) | 5.642E-05 | 5.642E-05 | DCF1(8) |
| A-1 | Pu-238 (Source: FGR 12) | 1.513E-04 | 1.513E-04 | DCF1(9) |
| A-1 | Ra-226 (Source: FGR 12) | 3.176E-02 | 3.176E-02 | DCF1(10) |
| A-1 | Rn-222 (Source: FGR 12) | 2.354E-03 | 2.354E-03 | DCF1(11) |
| A-1 | Th-230 (Source: FGR 12) | 1.209E-03 | 1.209E-03 | DCF1(12) |
| A-1 | Tl-210 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1(13) |
| A-1 | U-234 (Source: FGR 12) | 4.017E-04 | 4.017E-04 | DCF1(14) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Pb-210+D | 1.380E-02 | 1.360E-02 | DCF2(1) |
| B-1 | Po-210 | 9.400E-03 | 9.400E-03 | DCF2(2) |
| B-1 | Pu-238 | 3.920E-01 | 3.920E-01 | DCF2(3) |
| B-1 | Ra-226+D | 8.594E-03 | 8.580E-03 | DCF2(5) |
| B-1 | Th-230 | 3.260E-01 | 3.260E-01 | DCF2(6) |
| B-1 | U-234 | 1.320E-01 | 1.320E-01 | DCF2(7) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Pb-210+D | 5.376E-03 | 5.370E-03 | DCF3(1) |
| D-1 | Po-210 | 1.900E-03 | 1.900E-03 | DCF3(2) |
| D-1 | Pu-238 | 3.200E-03 | 3.200E-03 | DCF3(3) |
| D-1 | Ra-226+D | 1.321E-03 | 1.320E-03 | DCF3(5) |
| D-1 | Th-230 | 5.480E-04 | 5.480E-04 | DCF3(6) |
| D-1 | U-234 | 2.830E-04 | 2.830E-04 | DCF3(7) |
| D-34 | Food transfer factors: | | | |
| D-34 | Pb-210+D , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(1,1) |
| D-34 | Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 8.000E-04 | RTF(1,2) |
| D-34 | Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(1,3) |
| D-34 | Po-210 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(2,1) |
| D-34 | Po-210 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(2,2) |
| D-34 | Po-210 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(2,3) |
| D-34 | Pu-238 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(3,1) |
| D-34 | Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(3,2) |
| D-34 | Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(3,3) |
| D-34 | Ra-226+D , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(5,1) |
| D-34 | Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(5,2) |
| D-34 | Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(5,3) |

Summary : EF-1 Pu-238_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: Pu238 Plant Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-34 | Th-230 , plant/soil concentration ratio, dimensionless. | 1.000E-03 | 1.000E-03 | RTF(6,1) |
| D-34 | Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(6,2) |
| D-34 | Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(6,3) |
| D-34 | | | | |
| D-34 | U-234 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(7,1) |
| D-34 | U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(7,2) |
| D-34 | U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(7,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Pb-210+D , fish | 3.000E+02 | 3.000E+02 | BIOFAC(1,1) |
| D-5 | Pb-210+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Po-210 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(2,1) |
| D-5 | Po-210 , crustacea and mollusks | 2.000E+04 | 2.000E+04 | BIOFAC(2,2) |
| D-5 | | | | |
| D-5 | Pu-238 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(3,1) |
| D-5 | Pu-238 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | Ra-226+D , fish | 5.000E+01 | 5.000E+01 | BIOFAC(5,1) |
| D-5 | Ra-226+D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | Th-230 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(6,1) |
| D-5 | Th-230 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(6,2) |
| D-5 | | | | |
| D-5 | U-234 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(7,1) |
| D-5 | U-234 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(7,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF-1 Pu-238_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T (2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T (3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T (4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T (5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T (6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T (7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T (8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T (9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T (10) |
| R012 | Initial principal radionuclide (pCi/g): Pu-238 | 1.000E+00 | 0.000E+00 | --- | S1(3) |
| R012 | Concentration in groundwater (pCi/L): Pu-238 | not used | 0.000E+00 | --- | W1(3) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 3.706E+02 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Pu-238 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.097E-03 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R016 | Distribution coefficients for daughter Pb-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 8.355E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Po-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCC(2) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCU(2,1) |
| R016 | Saturated zone (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCS(2) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.103E-02 | ALEACH(2) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(2) |
| R016 | Distribution coefficients for daughter Ra-226 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCC(5) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCU(5,1) |
| R016 | Saturated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCS(5) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.657E-04 | ALEACH(5) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(5) |
| R016 | Distribution coefficients for daughter Th-230 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(6) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(6,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(6) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.397E-04 | ALEACH(6) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(6) |
| R016 | Distribution coefficients for daughter U-234 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(7) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(7,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(7) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(7) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(7) |

Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE (1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE (2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE (3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE (4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE (5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE (6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE (7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE (8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE (9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA (1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA (2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA (3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA (4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA (5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA (6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA (7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA (8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA (9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |

Summary : EF-1 Pu-238_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DRCOCT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |

Probabilistic results summary : EF-1 Pu-238_soil DCGL

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Rev D

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 21 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 22 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |
| 24 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 7.78 | 2.76 | .001 | .999 | | | | |
| 25 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 7.78 | 2.76 | .001 | .999 | | | | |
| 26 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 7.78 | 2.76 | .001 | .999 | | | | |
| 27 | BRTF(82,1) | TRUNCATED LOGNORMAL-N | -5.52 | .9 | .001 | .999 | | | | |
| 28 | BRTF(82,2) | TRUNCATED LOGNORMAL-N | -7.13 | .7 | .001 | .999 | | | | |
| 29 | BRTF(82,3) | TRUNCATED LOGNORMAL-N | -8.11 | .9 | .001 | .999 | | | | |
| 30 | BBIO(82,1) | LOGNORMAL-N | 5.7 | 1.1 | | | | | | |
| 31 | DCACTC(2) | TRUNCATED LOGNORMAL-N | 5.2 | 1.68 | .001 | .999 | | | | |
| 32 | DCACTU1(2) | TRUNCATED LOGNORMAL-N | 5.2 | 1.68 | .001 | .999 | | | | |
| 33 | DCACTS(2) | TRUNCATED LOGNORMAL-N | 5.2 | 1.68 | .001 | .999 | | | | |
| 34 | BRTF(84,1) | TRUNCATED LOGNORMAL-N | -6.9 | .9 | .001 | .999 | | | | |
| 35 | BRTF(84,2) | TRUNCATED LOGNORMAL-N | -5.3 | .7 | .001 | .999 | | | | |
| 36 | BRTF(84,3) | TRUNCATED LOGNORMAL-N | -7.82 | .7 | .001 | .999 | | | | |
| 37 | BBIO(84,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | |
| 38 | DCACTC(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 39 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 40 | DCACTS(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 41 | BRTF(94,2) | TRUNCATED LOGNORMAL-N | -9.21 | .2 | .001 | .999 | | | | |
| 42 | BRTF(94,3) | TRUNCATED LOGNORMAL-N | -13.82 | .5 | .001 | .999 | | | | |
| 43 | BBIO(94,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | |
| 44 | DCACTC(5) | TRUNCATED LOGNORMAL-N | 8.17 | 1.7 | .001 | .999 | | | | |
| 45 | DCACTU1(5) | TRUNCATED LOGNORMAL-N | 8.17 | 1.7 | .001 | .999 | | | | |
| 46 | DCACTS(5) | TRUNCATED LOGNORMAL-N | 8.17 | 1.7 | .001 | .999 | | | | |
| 47 | BRTF(88,1) | TRUNCATED LOGNORMAL-N | -3.22 | .9 | .001 | .999 | | | | |
| 48 | BRTF(88,2) | TRUNCATED LOGNORMAL-N | -6.91 | .7 | .001 | .999 | | | | |

Probabilistic results summary : EF-1 Pu-238_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | Peak mean dose |
|------------|------------------------|----------------|
| | Years | mrem/yr |
| 1 | 0.000E+00 | 1.587E-01 |

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Pu239

Summary : EF-1 Pu-239_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Pu PTF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ac-227 (Source: FGR 12) | 4.951E-04 | 4.951E-04 | DCF1(1) |
| A-1 | Bi-211 (Source: FGR 12) | 2.559E-01 | 2.559E-01 | DCF1(2) |
| A-1 | Fr-223 (Source: FGR 12) | 1.980E-01 | 1.980E-01 | DCF1(3) |
| A-1 | Pa-231 (Source: FGR 12) | 1.906E-01 | 1.906E-01 | DCF1(4) |
| A-1 | Pb-211 (Source: FGR 12) | 3.064E-01 | 3.064E-01 | DCF1(5) |
| A-1 | Po-211 (Source: FGR 12) | 4.764E-02 | 4.764E-02 | DCF1(6) |
| A-1 | Po-215 (Source: FGR 12) | 1.016E-03 | 1.016E-03 | DCF1(7) |
| A-1 | Pu-239 (Source: FGR 12) | 2.952E-04 | 2.952E-04 | DCF1(8) |
| A-1 | Ra-223 (Source: FGR 12) | 6.034E-01 | 6.034E-01 | DCF1(9) |
| A-1 | Rn-219 (Source: FGR 12) | 3.083E-01 | 3.083E-01 | DCF1(10) |
| A-1 | Th-227 (Source: FGR 12) | 5.212E-01 | 5.212E-01 | DCF1(11) |
| A-1 | Th-231 (Source: FGR 12) | 3.643E-02 | 3.643E-02 | DCF1(12) |
| A-1 | Tl-207 (Source: FGR 12) | 1.980E-02 | 1.980E-02 | DCF1(13) |
| A-1 | U-235 (Source: FGR 12) | 7.211E-01 | 7.211E-01 | DCF1(14) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ac-227+D | 6.724E+00 | 6.700E+00 | DCF2(1) |
| B-1 | Pa-231 | 1.280E+00 | 1.280E+00 | DCF2(2) |
| B-1 | Pu-239 | 4.290E-01 | 4.290E-01 | DCF2(3) |
| B-1 | U-235+D | 1.230E-01 | 1.230E-01 | DCF2(4) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ac-227+D | 1.480E-02 | 1.410E-02 | DCF3(1) |
| D-1 | Pa-231 | 1.060E-02 | 1.060E-02 | DCF3(2) |
| D-1 | Pu-239 | 3.540E-03 | 3.540E-03 | DCF3(3) |
| D-1 | U-235+D | 2.673E-04 | 2.660E-04 | DCF3(4) |
| D-34 | Food transfer factors: | | | |
| D-34 | Ac-227+D , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(1,1) |
| D-34 | Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(1,2) |
| D-34 | Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(1,3) |
| D-34 | Pa-231 , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(2,1) |
| D-34 | Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(2,2) |
| D-34 | Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(2,3) |
| D-34 | Pu-239 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(3,1) |
| D-34 | Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(3,2) |
| D-34 | Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(3,3) |
| D-34 | U-235+D , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(4,1) |
| D-34 | U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(4,2) |
| D-34 | U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(4,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ac-227+D , fish | 1.500E+01 | 1.500E+01 | BIOFAC(1,1) |
| D-5 | Ac-227+D , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |
| D-5 | | | | |

Summary : EF-1 Pu-239_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary (continued)
Dose Library: Pu PTF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|----------------------------------|----------------|------------|----------------|
| D-5 | Pa-231 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(2,1) |
| D-5 | Pa-231 , crustacea and mollusks | 1.100E+02 | 1.100E+02 | BIOFAC(2,2) |
| D-5 | | | | |
| D-5 | Pu-239 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(3,1) |
| D-5 | Pu-239 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | U-235+D , fish | 1.000E+01 | 1.000E+01 | BIOFAC(4,1) |
| D-5 | U-235+D , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(4,2) |

#For DCf1(XXX) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF-1 Pu-239_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Pu-239 | 1.000E+00 | 0.000E+00 | --- | S1(3) |
| R012 | Concentration in groundwater (pCi/L): Pu-239 | not used | 0.000E+00 | --- | W1(3) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 3.706E+02 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Summary : EF-1 Pu-239_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Pu-239 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.097E-03 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R016 | Distribution coefficients for daughter Ac-227 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.422E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Pa-231 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCC(2) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCU(2,1) |
| R016 | Saturated zone (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCS(2) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.258E-03 | ALEACH(2) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(2) |
| R016 | Distribution coefficients for daughter U-235 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(4) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(4,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(4) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(4) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(4) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|---|----------------|
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | CL2WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | CL2CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |

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Probabilistic results summary : EF-1 Pu-239_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 21 | JW | UNIFORM | 1141 | 2157 | | | | | | |
| 22 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |
| 24 | BRTF(94,2) | TRUNCATED LOGNORMAL-N | -9.21 | .2 | .001 | .999 | | | | |
| 25 | BRTF(94,3) | TRUNCATED LOGNORMAL-N | -13.82 | .5 | .001 | .999 | | | | |
| 26 | BBIO(94,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | |
| 27 | BRTF(92,1) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 28 | BRTF(92,2) | TRUNCATED LOGNORMAL-N | -7.13 | .7 | .001 | .999 | | | | |
| 29 | BRTF(92,3) | TRUNCATED LOGNORMAL-N | -7.82 | .6 | .001 | .999 | | | | |
| 30 | BBIO(92,1) | LOGNORMAL-N | 2.3 | 1.1 | | | | | | |
| 31 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 32 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 33 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.72 | 3.22 | .001 | .999 | | | | |
| 34 | BRTF(89,1) | TRUNCATED LOGNORMAL-N | -6.91 | 1.1 | .001 | .999 | | | | |
| 35 | BRTF(89,2) | TRUNCATED LOGNORMAL-N | -10.82 | 1 | .001 | .999 | | | | |
| 36 | BRTF(89,3) | TRUNCATED LOGNORMAL-N | -13.12 | .9 | .001 | .999 | | | | |
| 37 | BBIO(89,1) | LOGNORMAL-N | 2.7 | 1.1 | | | | | | |
| 38 | DCACTC(2) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 39 | DCACTU1(2) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 40 | DCACTS(2) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 41 | BRTF(91,1) | TRUNCATED LOGNORMAL-N | -4.61 | 1.1 | .001 | .999 | | | | |
| 42 | BRTF(91,2) | TRUNCATED LOGNORMAL-N | -12.21 | 1 | .001 | .999 | | | | |
| 43 | BRTF(91,3) | TRUNCATED LOGNORMAL-N | -12.21 | .9 | .001 | .999 | | | | |
| 44 | BBIO(91,1) | LOGNORMAL-N | 2.3 | 1.1 | | | | | | |
| 45 | DCACTC(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 46 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 47 | DCACTS(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 48 | DCACTC(4) | TRUNCATED LOGNORMAL-N | 4.84 | 3.13 | .001 | .999 | | | | |

Probabilistic results summary : EF-1 Pu-239_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | | Peak mean dose mrem/yr |
|------------|------------------------|--|---------------------------|
| | Years | | |
| 1 | 0.000E+00 | | 1.762E-01 |

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Summary : EF-1 Pu-240_soil DCGL

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| Time = 3.000E+00 | 12 |
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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Pu Plant Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ac-228 (Source: FGR 12) | 5.978E+00 | 5.978E+00 | DCF1(1) |
| A-1 | Bi-212 (Source: FGR 12) | 1.171E+00 | 1.171E+00 | DCF1(2) |
| A-1 | Pb-212 (Source: FGR 12) | 7.043E-01 | 7.043E-01 | DCF1(3) |
| A-1 | Po-212 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(4) |
| A-1 | Po-216 (Source: FGR 12) | 1.042E-04 | 1.042E-04 | DCF1(5) |
| A-1 | Pu-240 (Source: FGR 12) | 1.467E-04 | 1.467E-04 | DCF1(6) |
| A-1 | Ra-224 (Source: FGR 12) | 5.119E-02 | 5.119E-02 | DCF1(7) |
| A-1 | Ra-228 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(8) |
| A-1 | Rn-220 (Source: FGR 12) | 2.298E-03 | 2.298E-03 | DCF1(9) |
| A-1 | Th-228 (Source: FGR 12) | 7.940E-03 | 7.940E-03 | DCF1(10) |
| A-1 | Th-232 (Source: FGR 12) | 5.212E-04 | 5.212E-04 | DCF1(11) |
| A-1 | Tl-208 (Source: FGR 12) | 2.298E+01 | 2.298E+01 | DCF1(12) |
| A-1 | U-236 (Source: FGR 12) | 2.148E-04 | 2.148E-04 | DCF1(13) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Pu-240 | 4.290E-01 | 4.290E-01 | DCF2(1) |
| B-1 | Ra-228+D | 5.078E-03 | 4.770E-03 | DCF2(3) |
| B-1 | Th-228+D | 3.454E-01 | 3.420E-01 | DCF2(4) |
| B-1 | Th-232 | 1.640E+00 | 1.640E+00 | DCF2(5) |
| B-1 | U-236 | 1.250E-01 | 1.250E-01 | DCF2(6) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Pu-240 | 3.540E-03 | 3.540E-03 | DCF3(1) |
| D-1 | Ra-228+D | 1.442E-03 | 1.440E-03 | DCF3(3) |
| D-1 | Th-228+D | 8.086E-04 | 3.960E-04 | DCF3(4) |
| D-1 | Th-232 | 2.730E-03 | 2.730E-03 | DCF3(5) |
| D-1 | U-236 | 2.690E-04 | 2.690E-04 | DCF3(6) |
| D-34 | Food transfer factors: | | | |
| D-34 | Pu-240 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(1,1) |
| D-34 | Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(1,2) |
| D-34 | Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Ra-228+D , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(3,1) |
| D-34 | Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(3,2) |
| D-34 | Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(3,3) |
| D-34 | | | | |
| D-34 | Th-228+D , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(4,1) |
| D-34 | Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(4,2) |
| D-34 | Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(4,3) |
| D-34 | | | | |
| D-34 | Th-232 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(5,1) |
| D-34 | Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(5,2) |
| D-34 | Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(5,3) |
| D-34 | | | | |
| D-34 | U-236 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(6,1) |
| D-34 | U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E-04 | 3.400E-04 | RTF(6,2) |
| D-34 | U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(6,3) |

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Summary : EF-1 Pu-240_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Pu Plant Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Pu-240 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(1,1) |
| D-5 | Pu-240 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Ra-228+D , fish | 5.000E+01 | 5.000E+01 | BIOFAC(3,1) |
| D-5 | Ra-228+D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | Th-228+D , fish | 1.000E+02 | 1.000E+02 | BIOFAC(4,1) |
| D-5 | Th-228+D , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(4,2) |
| D-5 | | | | |
| D-5 | Th-232 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(5,1) |
| D-5 | Th-232 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | U-236 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(6,1) |
| D-5 | U-236 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(6,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EF-1 Pu-240_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Pu-240 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Pu-240 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 3.706E+02 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.451E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF-1 Pu-240_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Pu-240 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 9.530E+02 | 2.000E+03 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.097E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Ra-228 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.657E-04 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R016 | Distribution coefficients for daughter Th-228 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(4) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(4,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(4) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.397E-04 | ALEACH(4) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(4) |
| R016 | Distribution coefficients for daughter Th-232 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(5) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(5,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(5) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.397E-04 | ALEACH(5) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(5) |
| R016 | Distribution coefficients for daughter U-236 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(6) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(6,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(6) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(6) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(6) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALLR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |

Summary : EF-1 Pu-240_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\PU240\EF1SOIL DCGL_PU240.RAD

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Rev 0

Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LF15 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LF16 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LW15 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LW16 |

Summary : EF-1 Pu-240_soil DCGL

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Rev 0

Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.897E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVTG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |

Probabilistic results summary : EF-1 Pu-240_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\PU240\EF1SCIL DCGL_PU240.RAD

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Probabilistic results summary : EF-1 Pu-240_soil DCGL

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Rev D

Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 15 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 16 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 17 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 21 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 22 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |
| 24 | BRTF(94,2) | TRUNCATED LOGNORMAL-N | -9.21 | .2 | .001 | .999 | | | | |
| 25 | BRTF(94,3) | TRUNCATED LOGNORMAL-N | -13.82 | .5 | .001 | .999 | | | | |
| 26 | BBIO(94,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | |
| 27 | BRTF(88,1) | TRUNCATED LOGNORMAL-N | -3.22 | .9 | .001 | .999 | | | | |
| 28 | BRTF(88,2) | TRUNCATED LOGNORMAL-N | -6.91 | .7 | .001 | .999 | | | | |
| 29 | BRTF(88,3) | TRUNCATED LOGNORMAL-N | -6.91 | .5 | .001 | .999 | | | | |
| 30 | BBIO(88,1) | LOGNORMAL-N | 3.9 | 1.1 | | | | | | |
| 31 | BRTF(90,1) | TRUNCATED LOGNORMAL-N | -6.91 | .9 | .001 | .999 | | | | |
| 32 | BRTF(90,2) | TRUNCATED LOGNORMAL-N | -9.21 | 1 | .001 | .999 | | | | |
| 33 | BRTF(90,3) | TRUNCATED LOGNORMAL-N | -12.21 | .9 | .001 | .999 | | | | |
| 34 | BBIO(90,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | |
| 35 | BRTF(92,1) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | |
| 36 | BRTF(92,2) | TRUNCATED LOGNORMAL-N | -7.13 | .7 | .001 | .999 | | | | |
| 37 | BRTF(92,3) | TRUNCATED LOGNORMAL-N | -7.82 | .6 | .001 | .999 | | | | |
| 38 | BBIO(92,1) | LOGNORMAL-N | 2.3 | 1.1 | | | | | | |
| 39 | DCACTC(1) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 40 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 6.85 | 1.89 | .001 | .999 | | | | |
| 41 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | |
| 42 | DCACTC(3) | TRUNCATED LOGNORMAL-N | 8.17 | 1.7 | .001 | .999 | | | | |
| 43 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 8.17 | 1.7 | .001 | .999 | | | | |
| 44 | DCACTS(3) | TRUNCATED LOGNORMAL-N | 8.17 | 1.7 | .001 | .999 | | | | |
| 45 | DCACTC(4) | TRUNCATED LOGNORMAL-N | 8.68 | 3.62 | .001 | .999 | | | | |
| 46 | DCACTU1(4) | TRUNCATED LOGNORMAL-N | 8.68 | 3.62 | .001 | .999 | | | | |
| 47 | DCACTS(4) | TRUNCATED LOGNORMAL-N | 8.68 | 3.62 | .001 | .999 | | | | |
| 48 | DCACTC(5) | TRUNCATED LOGNORMAL-N | 8.68 | 3.62 | .001 | .999 | | | | |

Probabilistic results summary : EF-1 Pu-240_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\PU240\EF1SOIL DCGL_PU240.RAD

Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 1.761E-01 |

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Pu-241

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Summary : EF-1 PU-241_Soil_DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\EFU241_DCGL_BJD\EF1_SOIL_DCGL_PU241_JNR.RAD

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Summary : EP-1 Pu-241 soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Pu PTF Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation. (mrem/yr)/(pCi/g) | | | |
| A-1 | Ac-225 (Source: FGR 12) | 6.371E-02 | 6.371E-02 | DCF1(1) |
| A-1 | Am-241 (Source: FGR 12) | 4.372E-02 | 4.372E-02 | DCF1(2) |
| A-1 | At-217 (Source: FGR 12) | 1.173E-03 | 1.173E-03 | DCF1(3) |
| A-1 | Bi-213 (Source: FGR 12) | 7.660E-01 | 7.660E-01 | DCF1(4) |
| A-1 | Fr-221 (Source: FGR 12) | 1.536E-01 | 1.536E-01 | DCF1(5) |
| A-1 | Np-237 (Source: FGR 12) | 7.790E-02 | 7.790E-02 | DCF1(6) |
| A-1 | Pu-233 (Source: FGR 12) | 1.020E+00 | 1.020E+00 | DCF1(7) |
| A-1 | Pu-239 (Source: FGR 12) | 7.734E-04 | 7.734E-04 | DCF1(8) |
| A-1 | Pu-241 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1(9) |
| A-1 | Pu-241 (Source: FGR 12) | 5.904E-06 | 5.904E-06 | DCF1(10) |
| A-1 | Ra-226 (Source: FGR 12) | 1.102E-02 | 1.102E-02 | DCF1(11) |
| A-1 | Th-229 (Source: FGR 12) | 3.213E-01 | 3.213E-01 | DCF1(12) |
| A-1 | Th-230 (Source: FGR 12) | 1.293E+01 | 1.293E+01 | DCF1(13) |
| A-1 | U-233 (Source: FGR 12) | 1.397E-03 | 1.397E-03 | DCF1(14) |
| A-1 | U-237 (Source: FGR 12) | 5.306E-01 | 5.306E-01 | DCF1(15) |
| | | | | |
| D-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Am-241 | 4.440E-01 | 4.440E-01 | DCF2(1) |
| B-1 | Np-237+D | 5.400E-01 | 5.400E-01 | DCF2(2) |
| B-1 | Pu-241 | 8.250E-03 | 8.250E-03 | DCF2(3) |
| B-1 | Pu-241+D | 8.254E-03 | 8.250E-03 | DCF2(4) |
| B-1 | Th-229+D | 2.169E+00 | 2.150E+00 | DCF2(5) |
| D-1 | U-233 | 1.350E-01 | 1.350E-01 | DCF2(6) |
| | | | | |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Am-241 | 3.640E-03 | 3.640E-03 | DCF3(1) |
| D-1 | Np-237+D | 4.444E-03 | 4.440E-03 | DCF3(2) |
| D-1 | Pu-241 | 6.840E-05 | 6.840E-05 | DCF3(3) |
| D-1 | Pu-241+D | 7.157E-05 | 6.840E-05 | DCF3(4) |
| D-1 | Th-229+D | 4.027E-03 | 3.530E-03 | DCF3(5) |
| D-1 | U-233 | 2.890E-04 | 2.890E-04 | DCF3(6) |
| | | | | |
| D-34 | Food transfer factors: | | | |
| D-34 | Am-241 , plant/soil concentration ratio, dimensionless | 1.027E-03 | 1.000E-03 | RTF(1,1) |
| D-34 | Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(1,2) |
| D-34 | Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Np-237+D , plant/soil concentration ratio, dimensionless | 2.000E-02 | 2.000E-02 | RTF(2,1) |
| D-34 | Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(2,2) |
| D-34 | Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(2,3) |
| D-34 | | | | |
| D-34 | Pu-241 , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(3,1) |
| D-34 | Pu-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(3,2) |
| D-34 | Pu-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(3,3) |
| D-34 | | | | |
| D-34 | Pu-241+D , plant/soil concentration ratio, dimensionless | 1.827E-03 | 1.000E-03 | RTF(4,1) |
| D-34 | Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(4,2) |
| D-34 | Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-06 | 1.000E-06 | RTF(4,3) |
| D-34 | | | | |

Summary: EF-1 Pu-241 soil DCGL

File: C:\RESRAD_FAMIL\RESRAD\USERFILES\PU241_DCGL_BJD\EF1 SOIL DCGL_PU241_JBG.RAD

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: D4 PFF Plus FGR 11

| Menu | Parameter | Current Value* | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-34 | Th-229+D, plant/soil concentration ratio, dimensionless | 1.000E+03 | 1.000E-03 | RTF(5,1) |
| D-34 | Th-229+D, beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E+04 | 1.000E-04 | RTF(5,2) |
| D-34 | Th-229+D, milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E+06 | 5.000E-06 | RTF(5,3) |
| D-34 | | | | |
| D-34 | U-233, plant/soil concentration ratio, dimensionless | 2.500E+03 | 2.500E-03 | RTF(6,1) |
| D-34 | U-233, beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.400E+04 | 3.400E-04 | RTF(6,2) |
| D-34 | U-233, milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E+04 | 6.000E-04 | RTF(6,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ax-241, fish | 3.000E+01 | 3.000E+01 | BIOFAC(1,1) |
| D-5 | Ax-241, crustacea and mollusks | 1.000E+03 | 1.000E-03 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Np-237+D, fish | 3.000E+01 | 3.000E+01 | BIOFAC(2,1) |
| D-5 | Np-237+D, crustacea and mollusks | 4.000E+02 | 4.000E+02 | BIOFAC(2,2) |
| D-5 | | | | |
| D-5 | Pu-241, fish | 3.000E+01 | 3.000E+01 | BIOFAC(3,1) |
| D-5 | Pu-241, crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | Pu-241+D, fish | 3.000E+01 | 3.000E+01 | BIOFAC(4,1) |
| D-5 | Pu-241+D, crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(4,2) |
| D-5 | | | | |
| D-5 | Th-229+D, fish | 1.000E+02 | 1.000E+02 | BIOFAC(5,1) |
| D-5 | Th-229+D, crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | U-233, fish | 1.000E+01 | 1.000E+01 | BIOFAC(6,1) |
| D-5 | U-233, crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(6,2) |

*For DCGL(xxx) only, factors are for infinite depth & area. See RTF table in Ground Pathway of Detailed Report.

*Base Case means Default Lib w/o Associate Nuclide contributions.

Summary: SF-1 Pu-241_c011.DCGL

File: C:\RESRAD_FAMILY\RESRAD\USERFILES\PU241_DCGL_RJD\EF1_S075_DCGL_PU241_P03.RAD

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Site-Specific Parameter Summary

| Menu | Parameter | User | | Used by RESRAD | | Parameter Name |
|------|---|-----------|-----------|--------------------------------|--|----------------|
| | | Input | Default | (If different from user input) | | |
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | | AREA |
| R011 | Thickness of contaminated zone (m) | 1.521E-01 | 2.000E+00 | --- | | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | | LCZPAQ |
| R011 | Basic radiation dose limit (mrad/yr) | 2.500E+01 | 3.000E+01 | --- | | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | | T(6) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | | T(9) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Pu-241 | 1.000E+00 | 0.000E+00 | --- | | SI(3) |
| R012 | Concentration in groundwater (pCi/L): Pu-241 | not used | 0.000E+00 | --- | | ML(3) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | | UCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | | VCE |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | | FCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.930E+00 | 2.000E+00 | --- | | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | | EWAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | | RI |
| R013 | Irrigation mode | overhead | overhead | --- | | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | | RANOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 3.706E+02 | 1.000E+02 | --- | | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | | HGW7 |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | | WMT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | | LWINT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.645E+03 | 2.500E+02 | --- | | UN |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | | NS |

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Site-Specific Parameter Summary (continued)

| Param | Parameter | User | | Used by RESRAD (If different from user input) | Parameter Name |
|-------|--|-----------|------------|--|-------------------|
| | | Input | Default | | |
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm ³) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | SUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Pu-241 | | | | |
| R016 | Contaminated zone (cm ³ /g) | 3.400E+03 | 2.000E+03 | --- | DCNUCC(3) |
| R016 | Unsat. zone 1 (cm ³ /g) | 9.530E+02 | 2.000E+03 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm ³ /g) | 9.530E+02 | 2.000E+03 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.878E-04 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R016 | Distribution coefficients for daughter Am-241 | | | | |
| R016 | Contaminated zone (cm ³ /g) | 1.281E+03 | 2.000E+01 | --- | DCNUCC(1) |
| R016 | Unsat. zone 1 (cm ³ /g) | 1.445E+03 | 2.000E+01 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm ³ /g) | 1.445E+03 | 2.000E+01 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.569E-03 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Np-237 | | | | |
| R016 | Contaminated zone (cm ³ /g) | 1.700E+01 | -1.000E+00 | --- | DCNUCC(2) |
| R016 | Unsat. zone 1 (cm ³ /g) | 1.700E+01 | -1.000E+00 | --- | DCNUCU(2,1) |
| R016 | Saturated zone (cm ³ /g) | 1.700E+01 | -1.000E+00 | --- | DCNUCS(2) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.165E-01 | ALEACH(2) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(2) |
| R016 | Distribution coefficients for daughter Th-229 | | | | |
| R016 | Contaminated zone (cm ³ /g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(5) |
| R016 | Unsat. zone 1 (cm ³ /g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(5,1) |
| R016 | Saturated zone (cm ³ /g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(5) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.397E-04 | ALEACH(5) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(5) |
| R016 | Distribution coefficients for daughter U-233 | | | | |
| R016 | Contaminated zone (cm ³ /g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(6) |
| R016 | Unsat. zone 1 (cm ³ /g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(6,1) |
| R016 | Saturated zone (cm ³ /g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(6) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.584E-02 | ALEACH(6) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(6) |
| R017 | Inhalation rate (m ³ /yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m ³) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SFIS |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SFIE |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |

Summary : EF-1 Pu-241_soil DOGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\PU241_DOGL_S01\EF1_SOIL DOGL_PU241_JWB.RAD

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (if different from user input) | Parameter Name |
|------|--|------------|-----------|---|----------------|
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | > 0 shows circular AREA. | FS |
| R017 | Radius of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 3.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FRF |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | EPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | EZEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | EMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFT5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFM5 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 3.000E+01 | --- | LWT5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWM5 |

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Summary : EF-1 Pu-241 soil DGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default (If different from user input) | Used by RESRAD | Parameter Name |
|------|--|------------|--|----------------|----------------|
| R019 | Livestock soil intake (kg/day) | 5.000E+01 | 5.000E-01 | --- | LSI |
| R015 | Mass loading for foliar deposition (g/m**3) | 4.000E+04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.499E+01 | 1.500E-01 | --- | EM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | EROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDM |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | PGWDM |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | SGWDM |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGAIR |
| R19B | Wet weight crop yield for Non-leafy (kg/m**2) | 5.500E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | YE(1) |
| R19B | Growing Season for Leafy (years) | 1.220E-01 | 2.500E-01 | --- | YE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | YE(3) |
| R19D | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19D | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19D | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDFY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDFY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDFY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWFY(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWFY(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWFY(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLRK |
| T14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| T14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CS |
| T14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| T14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| T14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | EMC |
| T14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| T14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| T14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFGA |
| T14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFGS |
| CR | Storage times of contaminated foodstuffs (days): | | | | |
| CR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| CR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| CR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| CR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| CR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| CR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| CR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| CR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| CR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENBFL |
| | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |

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Summary : EF-1 Pu-241 soil DCGL

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Site-Specific Parameter Summary (continued)

| Code | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|---|----------------|
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volunetric water content of the cover material | not used | 5.000E-02 | --- | PHZOCV |
| R021 | Volunetric water content of the foundation | not used | 3.000E-02 | --- | PHZOFI |
| R021 | Diffusion coefficient for radon gas (m ² /sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFI |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCS |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (rooms) (m) | not used | 2.500E+00 | --- | HBM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | EAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | EDFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| R17L | Number of graphical time points | 32 | --- | --- | NPTS |
| R17L | Maximum number of integration points for dose | 17 | --- | --- | ITMAX |
| R17L | Maximum number of integration points for risk | 1 | --- | --- | RTMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary: EF-3 PU-241_m011 DCGI

File: C:\RESRPP_FPM1LV\RESRAD\USERF11ES\PU241_DCGI_S014_DCGI_FU241_7WB.RPD

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | | | | | | | | | | |
|--------|------------|-----------------------|------------|--------|-------|---------|-------|---------|-------|--------|-------|--------|-------|--------|-------|---------|-------|-------|---|
| 1 | DENEGC | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | | | | | | | | | | |
| 2 | TPGZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | | | | | | | | | | |
| 3 | BCC | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | | | | | | | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | | | | | | | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | | | | | | | | | | |
| 6 | BSE | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | | | | | | | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | | | | | | | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | | | | | | | | | | |
| 9 | RUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | | | | | | | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | | | | | | | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | | | | | | | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | | | | | | | | | | |
| 13 | HLINR | CONTINUOUS LINEAR | 0 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00003 | .8115 | .00004 | .9495 | .00006 | .9937 | .000076 | .9983 | .0001 | 1 |
| 14 | TV(1) | TRUNCATED LOGNORMAL-N | 5.6 | .48 | .001 | .999 | | | | | | | | | | | | | |
| 15 | KLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | | | | | | | | | | |
| 16 | RWGT(12) | TRIANGULAR | .06 | .67 | .95 | | | | | | | | | | | | | | |
| 17 | MCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | | | | | | | | | | |
| 18 | EVAPTR | UNIFORM | .5 | .75 | | | | | | | | | | | | | | | |
| 19 | RZ | UNIFORM | .344 | .852 | | | | | | | | | | | | | | | |
| 20 | DNHWT | TRIANGULAR | 6 | 10 | 30 | | | | | | | | | | | | | | |
| 21 | DN | UNIFORM | 2101 | 2157 | | | | | | | | | | | | | | | |
| 22 | MCCZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | | | | | | | | | | |
| 23 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | | | | | | | | | | |
| 24 | BRTF(94,2) | TRUNCATED LOGNORMAL-N | -9.21 | .2 | .001 | .999 | | | | | | | | | | | | | |
| 25 | BRTF(94,3) | TRUNCATED LOGNORMAL-N | -13.82 | .5 | .001 | .999 | | | | | | | | | | | | | |
| 26 | SBIO(94,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | | | | | | | | | | |
| 27 | BRTF(96,1) | TRUNCATED LOGNORMAL-N | -6.91 | .9 | .001 | .999 | | | | | | | | | | | | | |
| 28 | BRTF(96,2) | TRUNCATED LOGNORMAL-N | -9.21 | 1 | .001 | .999 | | | | | | | | | | | | | |
| 29 | BRTF(96,3) | TRUNCATED LOGNORMAL-N | -12.21 | .9 | .001 | .999 | | | | | | | | | | | | | |
| 30 | SBIO(96,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | | | | | | | | | | |
| 31 | BRTF(92,1) | TRUNCATED LOGNORMAL-N | -6.21 | .9 | .001 | .999 | | | | | | | | | | | | | |
| 32 | BRTF(92,2) | TRUNCATED LOGNORMAL-N | -7.13 | .7 | .001 | .999 | | | | | | | | | | | | | |
| 33 | BRTF(92,3) | TRUNCATED LOGNORMAL-N | -7.82 | .6 | .001 | .999 | | | | | | | | | | | | | |
| 34 | SBIO(92,1) | LOGNORMAL-N | 2.3 | 1.1 | | | | | | | | | | | | | | | |
| 35 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 | | | | | | | | | | | | | |
| 36 | DCACT5(1) | TRUNCATED LOGNORMAL-N | 7.28 | 3.15 | .001 | .999 | | | | | | | | | | | | | |
| 37 | BRTF(95,2) | TRUNCATED LOGNORMAL-N | -9.9 | .2 | .001 | .999 | | | | | | | | | | | | | |
| 38 | BRTF(95,3) | TRUNCATED LOGNORMAL-N | -13.12 | .69315 | .001 | .999 | | | | | | | | | | | | | |
| 39 | SBIO(95,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | | | | | | | | | | |
| 40 | DCACTC(2) | TRUNCATED LOGNORMAL-N | 2.84 | .25 | .001 | .999 | | | | | | | | | | | | | |
| 41 | DCACTU1(2) | TRUNCATED LOGNORMAL-N | 2.84 | 2.25 | .001 | .999 | | | | | | | | | | | | | |
| 42 | DCACTS(2) | TRUNCATED LOGNORMAL-N | 2.84 | 2.25 | .001 | .999 | | | | | | | | | | | | | |
| 43 | BRTF(93,1) | TRUNCATED LOGNORMAL-N | -3.91 | .9 | .001 | .999 | | | | | | | | | | | | | |
| 44 | BRTF(93,2) | TRUNCATED LOGNORMAL-N | -6.91 | .69317 | .001 | .999 | | | | | | | | | | | | | |
| 45 | BRTF(93,3) | TRUNCATED LOGNORMAL-N | -11.51 | .69315 | .001 | .999 | | | | | | | | | | | | | |
| 46 | SBIO(93,1) | LOGNORMAL-N | 3.4 | 1.1 | | | | | | | | | | | | | | | |
| 47 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | | | | | | | | | | |
| 48 | DCACTS(3) | TRUNCATED LOGNORMAL-N | 6.86 | 1.89 | .001 | .999 | | | | | | | | | | | | | |

Probabilistic results summary : EF-1 Pu-241_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\PU241_DCGL_BJD\EF1 SOIL DCGL_PU241_JWB.RAD

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 3.000E+01 | 4.779E-03 |

Sb-125

Summary : EFl_Sb-125_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\SB125\EFISOIL DCGL_SB125.RAD

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Rev D

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Summary : EF1_Sb-125_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Sb-125 (Source: FGR 12) | 2.447E+00 | 2.447E+00 | DCF1(1) |
| A-1 | Te-125m (Source: FGR 12) | 1.515E-02 | 1.515E-02 | DCF1(2) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Sb-125 | 1.220E-05 | 1.220E-05 | DCF2(1) |
| B-1 | Te-125m | 7.290E-06 | 7.290E-06 | DCF2(3) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Sb-125 | 2.810E-06 | 2.810E-06 | DCF3(1) |
| D-1 | Te-125m | 3.670E-06 | 3.670E-06 | DCF3(3) |
| D-34 | Food transfer factors: | | | |
| D-34 | Sb-125 , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(1,1) |
| D-34 | Sb-125 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(1,2) |
| D-34 | Sb-125 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Te-125m , plant/soil concentration ratio, dimensionless | 6.000E-01 | 6.000E-01 | RTF(3,1) |
| D-34 | Te-125m , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 7.000E-03 | 7.000E-03 | RTF(3,2) |
| D-34 | Te-125m , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-04 | 5.000E-04 | RTF(3,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Sb-125 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(1,1) |
| D-5 | Sb-125 , crustacea and mollusks | 1.000E+01 | 1.000E+01 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Te-125m , fish | 4.000E+02 | 4.000E+02 | BIOFAC(3,1) |
| D-5 | Te-125m , crustacea and mollusks | 7.500E+01 | 7.500E+01 | BIOFAC(3,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Sb-125_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Sb-125 | 1.000E+00 | 0.000E+00 | --- | SI(1) |
| R012 | Concentration in groundwater (pCi/L): Sb-125 | not used | 0.000E+00 | --- | WL(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Sb-125_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Sb-125 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.322E+03 | 0.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.800E+02 | 0.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 3.800E+02 | 0.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.016E-04 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R016 | Distribution coefficients for daughter Te-125m | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.810E+01 | 0.000E+00 | --- | DCNUCC(3) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.810E+01 | 0.000E+00 | --- | DCNUCU(3,1) |
| R016 | Saturated zone (cm**3/g) | 3.810E+01 | 0.000E+00 | --- | DCNUCS(3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.225E-02 | ALEACH(3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(3) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHE3 |
| R017 | Shielding factor, external gamma | 3.982E-01 | 7.000E-01 | --- | SHE1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : EF1_Sb-125_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 2.150E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF1_Sb-125_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Summary : EF1_Sb-125_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Sb-125_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\SB125\EF1SOIL DCGL_SB125.RAD

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Probabilistic results summary : EFl_Sb-125_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|---------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | DROOT | UNIFORM | .3 | 4 | | | | | | |
| 13 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 14 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 15 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 16 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 17 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 18 | RI | UNIFORM | .344 | .852 | | | | | | |
| 19 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 20 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 21 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 22 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 23 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 24 | DCACTS(1) | TRUNCATED LOGNORMAL-N | 5.94 | 3.22 | .001 | .999 | | | | |
| 25 | BRTF(51,1) | TRUNCATED LOGNORMAL-N | -4.61 | .993252 | .001 | .999 | | | | |
| 26 | BRTF(51,2) | TRUNCATED LOGNORMAL-N | -6.91 | .916291 | .001 | .999 | | | | |
| 27 | BRTF(51,3) | TRUNCATED LOGNORMAL-N | -9.72 | .91629 | .001 | .999 | | | | |
| 28 | BBIO(51,1) | LOGNORMAL-N | 4.6 | 1.1 | | | | | | |
| 29 | DCACTC(3) | TRUNCATED LOGNORMAL-N | 3.64 | 3.22 | .001 | .999 | | | | |
| 30 | DCACTU1(3) | TRUNCATED LOGNORMAL-N | 3.62 | 3.22 | .001 | .999 | | | | |
| 31 | DCACTS(3) | TRUNCATED LOGNORMAL-N | 3.64 | 3.22 | .001 | .999 | | | | |
| 32 | BRTF(52,1) | TRUNCATED LOGNORMAL-N | -2.3 | .993252 | .001 | .999 | | | | |
| 33 | BRTF(52,2) | TRUNCATED LOGNORMAL-N | -4.96 | .916291 | .001 | .999 | | | | |
| 34 | BRTF(52,3) | TRUNCATED LOGNORMAL-N | -7.6 | .58779 | .001 | .999 | | | | |
| 35 | BBIO(52,1) | LOGNORMAL-N | 6 | 1.1 | | | | | | |
| 36 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 37 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 38 | SHF3 | UNIFORM | .15 | .95 | | | | | | |

Probabilistic results summary : EF1_Sb-125_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\SB125\EF1SOIL DCGL_SB125.RAD

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | | Peak mean dose |
|------------|------------------------|--|----------------|
| | Years | | mrem/yr |
| 1 | 0.000E+00 | | 7.276E-01 |

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Sr-90

Summary : EFl_Sr-90_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\SR90\EF1SOIL DCGL_SR90.RAD

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| Time = 3.000E+00 | 11 |
| Time = 1.000E+01 | 12 |
| Time = 3.000E+01 | 13 |
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Summary : EFl_Sr-90_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary
Dose Library: Sr90 PlantMilk Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Sr-90 (Source: FGR 12) | 7.043E-04 | 7.043E-04 | DCF1(1) |
| A-1 | Y-90 (Source: FGR 12) | 2.391E-02 | 2.391E-02 | DCF1(2) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Sr-90+D | 1.308E-03 | 1.300E-03 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Sr-90+D | 1.528E-04 | 1.420E-04 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Sr-90+D, plant/soil concentration ratio, dimensionless | 5.897E-01 | 3.000E-01 | RTF(1,1) |
| D-34 | Sr-90+D, beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-03 | 8.000E-03 | RTF(1,2) |
| D-34 | Sr-90+D, milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.812E-03 | 2.000E-03 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Sr-90+D, fish | 6.000E+01 | 6.000E+01 | BIOFAC(1,1) |
| D-5 | Sr-90+D, crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFL_Sr-90_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T (2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T (3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T (4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T (5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T (6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T (7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T (8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T (9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Sr-90 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Sr-90 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

Summary : EF1_Sr-90_soil DCGL

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\SR90\EF1SOIL DCGL_SR90.RAD

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Sr-90 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.308E+02 | 3.000E+01 | --- | DCNUCC(1) |
| R016 | Unsat. zone 1 (cm**3/g) | 3.200E+01 | 3.000E+01 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 3.200E+01 | 3.000E+01 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.527E-02 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Summary : EFl_Sr-90_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMLK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : EF1_Sr-90_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRI(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRI(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRI(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | CL2WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | CL2CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSCIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSEL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

Summary : EF1_Sr-90_soil DCGL

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Sr-90_soil DCGL

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Probabilistic results summary : EFl Sr-90_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|-------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ (1) | BOUNDED NORMAL | 1.5835 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ (1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ (1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ (1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 15 | YV (1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 16 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 17 | RWET (2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 18 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | DW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ (1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | EVAPTR | UNIFORM | .5 | .75 | | | | | | |
| 25 | DCACTU1 (1) | TRUNCATED LOGNORMAL-N | 3.45 | 2.12 | .001 | .999 | | | | |
| 26 | DCACTS (1) | TRUNCATED LOGNORMAL-N | 3.45 | 2.12 | .001 | .999 | | | | |
| 27 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |

Probabilistic results summary : EFl_Sr-90_soil_DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose Years | Peak mean dose mrem/yr |
|------------|---------------------------------|---------------------------|
| 1 | 0.000E+00 | 2.144E+00 |

Tc-99

Summary : EF1_Tc-99_soil DCGL

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Tc99 Plant Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Tc-99 (Source: FGR 12) | 1.255E-04 | 1.255E-04 | DCF1(1) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Tc-99 | 8.320E-06 | 8.320E-06 | DCF2(1) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Tc-99 | 1.460E-06 | 1.460E-06 | DCF3(1) |
| D-34 | Food transfer factors: | | | |
| D-34 | Tc-99 , plant/soil concentration ratio, dimensionless | 9.159E+00 | 5.000E+00 | RTF(1,1) |
| D-34 | Tc-99 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(1,2) |
| D-34 | Tc-99 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(1,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Tc-99 , fish | 2.000E+01 | 2.000E+01 | BIOFAC(1,1) |
| D-5 | Tc-99 , crustacea and mollusks | 5.000E+00 | 5.000E+00 | BIOFAC(1,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETFG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : EFl_Tc-99_soil DCGL

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 7.855E+03 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.524E-01 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 1.000E+02 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Tc-99 | 1.000E+00 | 0.000E+00 | --- | S1(1) |
| R012 | Concentration in groundwater (pCi/L): Tc-99 | not used | 0.000E+00 | --- | W1(1) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 2.910E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.874E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.400E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 5.980E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 2.820E+08 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.100E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.460E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.400E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 2.000E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | 6.320E-01 | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 1.000E-03 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 1.000E+01 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 1.649E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R015 | Unsat. zone 1, thickness (m) | 1.800E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.564E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 4.100E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 3.460E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.400E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 6.320E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 5.022E+00 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Tc-99 | | | | |
| R016 | Contaminated zone (cm**3/g) | 4.271E+00 | 0.000E+00 | --- | DCNUCC(1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.100E-01 | 0.000E+00 | --- | DCNUCU(1,1) |
| R016 | Saturated zone (cm**3/g) | 5.100E-01 | 0.000E+00 | --- | DCNUCS(1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.773E-01 | ALEACH(1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(1) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.330E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.800E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 2.730E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.571E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.181E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE(1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE(2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE(3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE(4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE(5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE(6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE(7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE(8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE(9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | 2.060E+01 | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.826E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.785E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | 1.000E+00 | -1 | --- | FPLANT |
| R018 | Contamination fraction of meat | 1.000E+00 | -1 | --- | FMEAT |
| R018 | Contamination fraction of milk | 1.000E+00 | -1 | --- | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.710E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.320E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.000E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.225E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 5.600E-01 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.889E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.887E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.700E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 1.800E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12C2 |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 2.000E+01 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 32 | --- | --- | NPTS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | active |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Probabilistic results summary : EF1_Tc-99_soil DCGL

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Probabilistic results summary : EF1_Tc-99_soil DCGL

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Probabilistic Input

Number of Sample Runs: 2000

| Number | Name | Distribution | Parameters | | | | | | | |
|--------|------------|-----------------------|------------|-------|-------|---------|-------|---------|-------|-----|
| 1 | DENSCZ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 2 | TPCZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 3 | BCZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 4 | DENSAQ | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 5 | TPSZ | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 6 | BSZ | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 7 | DENSUZ(1) | BOUNDED NORMAL | 1.5635 | .2385 | .827 | 2.3 | | | | |
| 8 | TPUZ(1) | BOUNDED NORMAL | .41 | .0899 | .1322 | .6878 | | | | |
| 9 | BUZ(1) | BOUNDED LOGNORMAL-N | .632 | .282 | .786 | 4.5 | | | | |
| 10 | EPSZ | BOUNDED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 11 | EPUZ(1) | TRUNCATED NORMAL | .346 | .0915 | .0629 | .628 | | | | |
| 12 | SHF3 | UNIFORM | .15 | .95 | | | | | | |
| 13 | MLINH | CONTINUOUS LINEAR | 8 | 0 | 0 | .000008 | .0151 | .000016 | .1365 | .00 |
| 14 | DM | TRIANGULAR | 0 | .15 | .6 | | | | | |
| 15 | YV(1) | TRUNCATED LOGNORMAL-N | .56 | .48 | .001 | .999 | | | | |
| 16 | WLAM | TRIANGULAR | 5.1 | 18 | 84 | | | | | |
| 17 | RWET(2) | TRIANGULAR | .06 | .67 | .95 | | | | | |
| 18 | HCCZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 19 | RI | UNIFORM | .344 | .852 | | | | | | |
| 20 | HCSZ | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 21 | DWIBWT | TRIANGULAR | 6 | 10 | 30 | | | | | |
| 22 | UW | UNIFORM | 1141 | 2157 | | | | | | |
| 23 | HCUZ(1) | BOUNDED LOGNORMAL-N | 5.022 | 1.33 | 2.49 | 9250 | | | | |
| 24 | DCACTU1(1) | TRUNCATED LOGNORMAL-N | -.67 | 3.16 | .001 | .999 | | | | |
| 25 | DCACTS(1) | TRUNCATED LOGNORMAL-N | -.67 | 3.16 | .001 | .999 | | | | |
| 26 | BRTF(43,2) | TRUNCATED LOGNORMAL-N | -9.21 | .7 | .001 | .999 | | | | |
| 27 | BRTF(43,3) | TRUNCATED LOGNORMAL-N | -6.91 | .7 | .001 | .999 | | | | |
| 28 | BBIO(43,1) | LOGNORMAL-N | 3 | 1.1 | | | | | | |
| 29 | SHF1 | BOUNDED LOGNORMAL-N | -1.3 | .59 | .044 | 1 | | | | |

Probabilistic results summary : EFl_Tc-99_soil DCGL

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Peak of the mean dose (averaged over observations) at graphical times

| Repetition | Time of peak mean dose | | Peak mean dose mrem/yr |
|------------|------------------------|--|---------------------------|
| | Years | | |
| 1 | 0.000E+00 | | 2.132E-01 |

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END